



ESTABLISHED 1859.

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THE CHEMIST AND DRUGGIST is supplied regularly to every member of the following Societies:—

Pharmaceutical Society of Ireland.

South African Pharmaceutical Association.

Pharmaceutical Society of Natal.

Central Pharmaceutical Association of N.Z.

Otago Pharmaceutical Association.

Pharmaceutical Society of Queensland.

Pharmaceutical Society of South Australia.

Pharmaceutical Society of Western Australia.

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EXPORT TRADE.

THE CHEMIST AND DRUGGIST for March 21 is to be sent to every firm in the United Kingdom who export druggists' goods. This is in continuation of an extra circulation which we initiated many years ago, which has proved eminently successful, and is likely to be more so this year, on account of the flourishing state of the export trade in druggists' goods. This particular issue brings together those firms who act for large buyers abroad, and manufacturers and agents for, or dealers in, drugs, chemicals, perfumery, paints, varnishes, aerated-water plant, bottles, and druggists' sundries of all kinds. The circulation to merchant-shippers will be in addition to the regular issue of THE CHEMIST AND DRUGGIST to its subscribers throughout Europe, Asia, Africa, India, America, and Australasia. Advertisers who think of taking space in the issue should address the publisher at once.

Summary.

A CHEMIST's assistant who deserted his wife and became a missionary has been sent to prison for the desertion (p. 243).

MR. ARCHBUTT has described to the Nottingham section of the Society of Chemical Industry how nitric acid may be packed with safety (p. 254).

ZINC sulphate has proved a stumbling-block to most of our Students' Corner competitors this month; about 50 per cent. failed to detect it (p. 243).

OUR Paris correspondent mentions some remarkable facts in regard to Röntgen's rays which have an important bearing upon chemical problems (p. 246).

THE Irish Pharmaceutical Council's business last week was principally legal in character. The Council is thinking of forming a students' association (p. 251).

MR. JOSEPH INCE has spoken to the Chemists' Assistants' Association about British and foreign syrups, demanding generally that B.P. syrups should be thinner (p. 252).

MR. JOHN C. UMLEY finds that the superior characteristics of white peppermint oil are due to a large proportion of menthol esters than there is in the "black" oil (p. 250).

PROFESSOR TILDEN has told the Chemical Society that phosphoric anhydride is P_4O_{10} ; Mr. A. H. Allen has also shown the Society how to assay urea completely (p. 252).

GLASGOW chemists have again discussed the iniquity of doctors prescribing proprietary articles, and are to appeal to the Pharmaceutical Council regarding the matter (p. 255).

A CURIOUS way of closing wounds was described to the Linnean Society last week—viz., allowing ants to bite the edges, and pulling off the ant from the mandibles, which are left as a stitch (p. 254).

MR. W. C. AUSTEN, a Southampton chemist, who was committed to the Hampshire Assizes on a charge of feloniously using an instrument to procure abortion, has been discharged, as no sufficient evidence could be produced against him (p. 244).

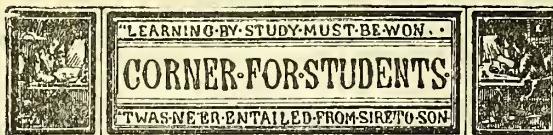
THE Executive Committee of the S. M. Burroughs Memorial Fund on Tuesday evening presented a cheque for £500 to the President of the Pharmaceutical Society, the Council of which has undertaken to found a research scholarship with the money (p. 247).

THE Committee of the Anti-cutting Association have elected Mr. Elliman as their President. At their first meeting they discussed a rebate scheme, and rejected it. They are now proposing to combine with the Grocers' Federation for the furtherance of their aims (p. 265).

PROFESSOR DUNSTAN and Mr. Thomas Tickle have endeavoured, by isolating the acetyl group of aconitine and estimating it as acetic acid, to devise an assay process for aconitine and preparations of aconite, but they have unexpectedly found that there is something else in aconite which yields acetic acid (p. 249). Professor Dunstan and Mr. Francis H. Carr have, however, discovered a chemical test for aconitine—viz., the formation of a sparingly soluble purple permanganate.

THE Council of the Irish Pharmaceutical Society have a difficult problem to settle. Nine apprentices to Grattan & Co (Limited) have memorialised them to grant them permission to proceed to the qualifying examination. They are all in the same position as Mr. Cleeland, whose certificate the High Court has ruled is not legal. The Council would like to treat these young men generously if they could find a legal way of doing so, and they have submitted the difficulty to their legal advisers (p. 251).

THE Pharmaceutical Society of Ireland have been defeated in their action against a limited company in the High Court. Their counsel argued that the Interpretation Act of 1859, which declares that in any criminal action the word "person" shall be taken to apply to corporations, was applicable to the Irish Pharmacy Act. The Act provides, however, that this shall not be the case where the contrary intention appears, and the Court held that the "contrary intention" is manifest in the Pharmacy Act. The case cannot be carried further (p. 260).



CONDUCTED BY RICHARD J. MOSS, F.C.S., F.I.C.

QUALITATIVE ANALYSIS.

THE subject of the next exercise in qualitative analysis will be a mixture of not more than three salts. It is to be submitted to a thorough systematic examination, all its constituents are to be detected, and proof is to be given that the substances detected are the only constituents of the mixture.

Students' applications for portions of the mixture of salts (accompanied by a stamped and addressed envelope, not a stamp merely) will be received up to Wednesday, February 19, and the samples will be forwarded immediately.

Students' reports will be received up to Saturday, February 29. Each report should contain a concise account of the work done, and should include a list of the constituents detected. In this list any substance regarded as an accidental impurity should be distinguished from the essential constituents of the salts composing the mixture.

REPORTS.

The mixture of salts which formed the subject of the last exercise consisted of 3 parts of zinc sulphate, 1 part of copper sulphate, and 1 part of manganese sulphate. Its calculated composition was—

Cu	..	..	..	..	..	5.08
Zn	..	..	..	..	..	13.59
Mn	..	..	..	..	..	4.56
SO ₄	..	..	..	..	..	35.74
H ₂ O	..	..	..	..	..	41.03
						100.00

The mixture contained a considerable trace of iron as an impurity.

There were sixty-four samples of the powder issued to correspondents, and thirty-three reports of analyses were received. Out of that number there was not a single failure in the detection of two constituents of the mixture of salts, copper and sulphuric acid. Only six students failed to detect 4½ per cent. of manganese; but in the case of zinc, the metal present in by far the largest quantity, there were fifteen failures, nearly one out of every two competitors.

Both copper and manganese exhibit striking and characteristic reactions, especially those in which colour plays a prominent part. Most of the salts of copper readily yield metallic copper by displacement with iron, and there is no possibility of mistaking metallic copper. Some of the blue fragments of crystals, picked out of the powder, placed on a knife-blade and moistened, gave this reaction unmistakably. The colour of the salt suggested the sulphate, and the presence of sulphuric acid was as easily ascertained. A minute portion of the powder, fused with sodium carbonate and nitrate, gave a green bead; this reaction left no doubt as to the presence of manganese.

Zinc gives no such striking reactions. The volatilisation of the metal, when its salts are heated on charcoal with reducing agents, and the deposition on the charcoal of a yellow oxide, which becomes white on cooling, is the reaction most likely to lead to the detection of the metal in the preliminary examination of a mixture of salts. It often happens that no difficulty is experienced in separating and identifying zinc in the regular course of analysis in the wet

way, while sometimes, as in the present case, the matter is not so easy. The chief cause of failure in the reports before us was the accidental precipitation of zinc as sulphide along with copper, owing to the absence of sufficient free acid to prevent the separation of zinc sulphide. Then there is another difficulty of an opposite nature that may explain some of the errors. When an attempt is made to detect zinc by precipitating the sulphide from an acetic-acid solution, it may fail on account of a free mineral acid being present. In neither case can any fixed rule be laid down. An experimental study of the reactions of the metal, both alone and in association with other metals, is the only way of obtaining the knowledge required in practical work of this kind.

PRIZES.

The First Prize for the best analysis of the mixture of salts has been awarded to

HERBERT BRIDGES, care of Messrs. Nuthall & Mason, Bank Plain, Norwich.

The Second Prize has been awarded to

R. DIXON, care of Mr. Smith, chemist, 164 Aigburth Road, Liverpool.

MARKS AWARDED FOR ANALYSES.

H. Bridges (1st prize) ..	..	100	F. Ford ..	..	..	..	..	82
R. Dixon (2nd prize) ..	..	98	Nuremburg ..	..	..	..	..	81
Campanulat ..	..	97	Elemei ..	..	..	..	..	78
W. H. G. ..	..	95	A. W. Jones ..	..	..	..	..	77
Cumbriana ..	..	95	T. E. Dearden ..	..	..	..	..	76
J. B. Fanconrt ..	..	95	Dexter ..	..	..	..	..	75
Atra Nox ..	..	94	R. T. S. ..	..	..	..	..	72
J. R. Acton ..	..	94	Per Ardua ..	..	..	..	..	70
Stow ..	..	93	Constant ..	..	..	..	..	68
Ireland ..	..	92	Novice ..	..	..	..	..	65
Sulphoviu ..	..	90	W. T. C. ..	..	..	..	..	63
Demosthenes ..	..	90	Upland ..	..	..	..	..	60
E. Ockenden ..	..	89	Narcissus ..	..	..	..	..	55
Forceps ..	..	88	H. E. W. ..	..	..	..	..	55
A. J. P. ..	..	87	Spero Infestis ..	..	..	..	..	45
N. M. ..	..	85	Morley ..	..	..	..	..	30
W. C. Pickering ..	..	83						

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

Note.—All communications should include the names and addresses of the writers.

A. J. P.—The manganese salt in the mixture was the sulphate. Operating even on the small scale necessary in examining crystals picked out of the powder you should have noticed that a solution gave with barium salts a precipitate insoluble in hydrochloric acid.

N. M.—The solution you evaporated to dryness for the detection of the alkalies contained salts of ammonium, which should have been volatilised before you added platonic chloride. Ammonio-platinic chloride is very like the potassium salt.

W. C. PICKERING.—The method you used for the detection of zinc gave correct results when properly carried out, though it was better to precipitate the zinc from the acetic-acid solution as sulphide. Zinc hydroxide is largely precipitated from dilute alkaline solutions on boiling. You may have lost some zinc in this way.

F. FORD.—You should be careful to note the effect of adding ammonia in excess before adding ammonium sulphide as a group-reagent. Only a slight brown flocculent precipitate was produced, showing that there was very little iron present.

NUREMBURG.—You did not examine the ammonium-sulphide precipitate for zinc. The colour of the precipitate indicated manganese, but it did not prove that manganese alone was present.

ELEMENI.—The acetic-acid solution which failed to give a precipitate with sulphuretted hydrogen may have contained some other free acid but it is more likely that your original solution, from which copper was precipitated, did not contain enough free acid to keep the zinc in solution.

A. W. JONES.—The colour of the mass you obtained on fusing the mixture with an alkaline carbonate and nitrate was so dark that you did not notice the green tint. You should have used a much smaller quantity of the powder.

T. E. DEARDEN.—Your tests confirmatory of the presence of cadmium were valueless in the presence of zinc and manganese, both of which, like cadmium, yield with potassium cyanide white precipitates soluble in an excess of the reagent.

DEXTER.—When the powder was heated there was no smell produced at all resembling that of a citrate when heated. The darkening in colour was due to the production of dark-coloured oxides. The precipitate you obtained with calcium chloride consisted of calcium sulphate, a salt only slightly soluble in water.

R. T. S.—See remarks to "Dexter."

PER ARDUA.—Precipitation of the white sulphide from an acetic-acid solution is more characteristic of zinc than the reaction with ferrocyanides.

CONSTANT.—You were mistaken in thinking that an odour of acetic acid was evolved on heating the powder with sulphuric acid. It is a common mistake to confound the irritating effects of other acid-vapours with the smell of acetic acid. By comparing the odour of the vapour in question with that of acetic acid of the proper degree of dilution, the error may be avoided. A solution of the powder did not give a red colour with ferric chloride as you state.

NOVICE.—You omitted to give a summary of your results. Further proof was required of the absence of all acids except sulphuric acid.

W. T. C.—It was important to detect manganese in the preliminary examination. The production of a green mass on fusing the powder with an alkaline carbonate and nitrate left no doubt as to the presence of manganese.

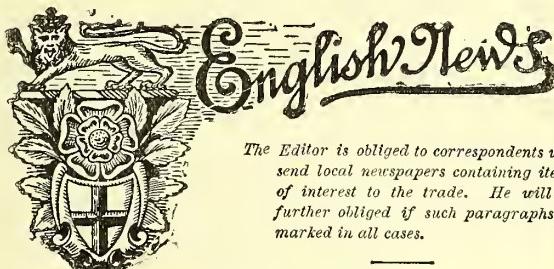
UPLAND.—There was no indication of sulphur dioxide on gently warming a solution of the powder acidulated with hydrochloric acid. By heating the powder to such a degree as to decompose the sulphates, sulphur dioxide would have been evolved. The chlorine you detected must have been derived from the hydrochloric acid used in the experiment. Silver nitrate gave a barely perceptible turbidity when added to a dilute nitric-acid solution of the powder.

NARCISSE.—When ammonia is used as a group-reagent care should be taken not only to render the solution alkaline, but to employ enough of the reagent to dissolve any soluble hydroxides that may have separated. The precipitate you mistook for ferric hydroxide evidently included zinc and manganese hydroxides, which would have dissolved in an excess of ammonia.

H. E. W.—The presence of a phosphate in a mixture of salts containing the metals you detected, and yet soluble in water, required some explanation, considering that the phosphates of those metals are insoluble in water.

SPERO INFESTIS.—See remarks to "Narcissus." It is evident you did not employ enough ammonia even to render the solution alkaline.

MORLEY.—Your work was not bad so far as it went, but you did only about a quarter of the analysis.



The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Suicide of a Chemist's Wife.

An inquest was held at Oldham on January 28 on the body of Martha Ann Gartside, wife of Mr. Chas. Garstide, chemist, Hilton Arcade, who had committed suicide by cutting her throat. She was 26 years of age, and had got in a low melancholy way, and was very rarely left alone. After hearing the circumstances the jury found that she had committed suicide whilst of unsound mind.

Chemist's Assistant—Missionary—Prison.

George Thomas Stephens (39), a chemist's assistant, of 165 Boughton, Chester, was charged at the South-Western Police Court, on February 7, on a warrant, with disobedience to an order made upon him to pay 12s. 6d. weekly towards the support of his wife, whom he deserted. The prisoner left his employment during the early part of last year, and accepted the position of a Church missionary under the Bishop of Algoma, at Montreal. He continued to discharge this duty for some time, but the Bishop, when he became aware of the prisoner's antecedents, dismissed him from office. He returned to this country, and was arrested by Warrant-officer Wise. The wife said her husband was living with another woman. Mr. Lane, Q.C., said the Gospel and

another woman did not go well together. The prisoner not being able to pay any of the 30*l.* due from him to his wife, Mr. Lane sent him to prison for one month.

Carbolic Acid in a Beer-bottle.

A child named Hallam, aged two years, the son of an hotel porter, residing in Hyde Road, Manchester, was the other day playing in a bedroom where he found a beer-bottle. He drank a portion of its contents, which happened to be carbolic acid, and died shortly afterwards. On Friday Mr. Smith, the Deputy Coroner, held an inquest in the case. He remarked upon the stupidity and carelessness of people keeping such dangerous poisons as carbolic acid in ordinary bottles. It too frequently happened, he said, that the beer-bottle and ginger-beer bottle were used for this purpose, and everybody knew how easily children learned habits, and how they would naturally think they could drink from a bottle they had seen others use. He would like to see it made an offence to keep poison in a bottle other than a proper poison-bottle. There had been no fewer than thirty-six cases of carbolic-acid poisoning inquired into at that court during the last twelve months.

The Sale of Laudanum.

At an inquest at Wolverhampton on February 7 upon a woman named Nash, who had poisoned herself by drinking laudanum, Mr. John Coleman, chemist and druggist, Worcester Street, stated that the deceased told him she wanted sixpennyworth of laudanum to cure the toothache. The bottle she brought had a laudanum label upon it. Mr. Coleman added that he sold about $\frac{1}{2}$ gallon of laudanum a month, and he himself should like more restrictions placed upon the sale of that and other poisons. He added that he need not have asked the deceased a question unless he liked. A verdict of suicide whilst of unsound mind was returned.

Charge of Stealing a Chemist's Cash-box.

At the Brighton Police Court on February 6 Charles George Jafford, aged 23, was charged on a warrant with stealing 28*l.* on January 10, the property of his master, Mr. Horace A. Costerton, chemist and druggist, of Western Road, Brighton. Mr. Costerton asked if he could withdraw the charge, on account of the prisoner's youth and the ability which he had shown; he thought it would be best to give him another chance. The Court said Mr. Costerton had put the law into operation and must proceed. Mr. Costerton then said he had employed the prisoner to do clerical work for him in the evening since October. On January 10 witness left the prisoner in his office, and put the cash-box, containing about 29*l.*, into the safe, which was left open for the prisoner to replace the books he was using. On returning about 1 in the morning, witness found the cash-box had been stolen, and he caused a warrant to be issued. Mr. Thomas Wilson, assistant to Mr. Costerton, gave corroborative evidence. It was then stated that the prisoner gave himself up at Bow Street, and made a statement to the effect that he was induced to take the money to settle some gambling debts. The prisoner was committed for trial at Sussex Assizes, and on February 12 was sentenced to four months' hard labour.

Fires.

About 11 o'clock last Saturday night the premises of Messrs. Tuck & Co., chemists and druggists, adjoining the L. & N. W. railway station at Harrow, were completely destroyed by fire, caused by a Mrs. Stroud, living in the house, slipping on the stairs, and upsetting a lighted paraffin lamp she carried. Mrs. Stroud was badly burnt, and the shop was quickly alight. On the arrival of the firemen flames were bursting out through all the windows, and fears were entertained that the walls would collapse. In the basement of the co-operative stores adjoining Messrs. Tuck's shop was a quantity of paraffin, and the apprehension prevailed that the party-wall would fail to keep out the flames, in which case there would have been little hope of saving any part of the entire block from destruction. Fortunately, however, the roof of the chemist's shop fell in, and this enabled the firemen to prevent the fire from reaching the stores of oil in the next-door basement. When the roof collapsed Fireman Haggett was struck on the head by some of the falling débris, which smashed his helmet

and split open the top of his head. He was at once removed to the Railway Hotel, where he was surgically treated, and afterwards sent home in a cab. Messrs. Tuck's shop was completely gutted. The three families rescued have been rendered homeless, and all their furniture, which was not insured, was completely ruined with the fire, smoke, and water. A valuable Newfoundland dog, belonging to Mr. Tuck, ran into the burning building and perished.

A fire occurred on the premises of Messrs. Grimble & Kent, chemists, High Street, Lincoln, on February 8. The cause of the outbreak was supposed to be that a quantity of soot, ignited by sparks, set fire to some straw. Beyond damage by smoke and water nothing serious resulted, the flames being extinguished without the assistance of the brigade.

The Chemists' Club.

There is little to add to what was said last week regarding the opening of the Farringdon Avenue Club, except that the function went off smoothly and well. Mr. George R. Barclay presided (with Mr. R. R. Groome, Bristol, manager of "Camwal," in the vice-chair), and in opening referred to the intentions which the organisers have in view in promoting the Club, and hoped that it would further brotherly feeling and union amongst chemists. He spoke to an audience which filled every chair in the club-room, and from 8 to 11 a staff of waiters was kept busy supplying the wants of the pillars who had come out for an evening's enjoyment. Apart from the arranged programme the smokers had a treat in the form of three pharmaceutical ditties from a popular young pharmacist—Mr. Walker. Towards 11 o'clock the meeting acclaimed their thanks to Mr. Chairman Barclay, on the motion of Mr. J. McKnight.

Robbery at a Gringley Chemist's.

A robbery took place at the end of last week from the shop of Mr. Fill, chemist, of Gringley-on-the-Hill, Notts. The thieves gained entrance by removing a square of glass from the window, and, breaking open the till, stole the contents.

The Charge against a Southampton Chemist.

At the Hampshire Winter Assizes at Winchester on February 6, before Mr. Justice Cave, Walter Crees Austen (46), chemist, on bail, was indicted for unlawfully and feloniously using a certain instrument with intent to procure the miscarriage of Alice Smith, at Southampton, in or about the month of March, 1892. Mr. E. U. Bullen prosecuted, and Mr. C. Mathews defended.

In opening the case, Mr. Bullen stated that the prisoner was a chemist, carrying on business at Southampton, and he was a man, he believed, of some position in the borough. He briefly stated the nature of the evidence of the woman, and said those were the whole facts of the case. The woman was the sole witness against him in this case, and she was virtually an accomplice. He could not lay his hands upon any corroborative evidence, and he thought his Lordship would tell the jury that it had always been considered not absolutely impossible to convict on the evidence of an accomplice, but a very dangerous thing to do. He thought it his duty to state fairly that he very much doubted if they could get anything beyond the evidence of the accomplice. Moreover the charge was not brought against the accused until November, 1895, three years and eight months after. The Magistrates however thought it right, having regard to circumstances which he was not at liberty to disclose, and upon which he could not bring evidence forward, to send the case for trial by a jury. His learned friend had spoken to him upon the subject, and he (Mr. Bullen) would put it to his Lordship whether he thought it right to go any further with the case.

His Lordship intimated that, under the circumstances mentioned, it would not be wise to proceed.

Mr. Bullen said he could not, fairly or justly, and he asked his Lordship so as to have his sanction.

His Lordship informed the jury that Mr. Bullen had stated the law to them quite correctly, and that he could not produce that corroboration of the witness's evidence which the law naturally required, and from the great length of time that had elapsed since the alleged offence took place it was necessary that there should be corroboration. Under these circumstances the learned counsel, in the exercise of his

discretion, had determined not to lay any evidence before the jury. No doubt the jury would return a verdict of not guilty. The jury acted on this suggestion, and the accused was discharged.

Sheffield Analyst's Report.

Mr. A. H. Allen, F.I.C., city analyst of Sheffield, in his report to the Council for the last quarter of 1895, states that he has received from the inspectors, duly analysed, and reported upon 202 samples. Of these 103 were of milk, thirty-four of butter, ten of coffee, ten of malt vinegar, and seventeen of spirit. Of six samples of paregoric, five were of fair quality, but one was deficient in alcohol, containing only two-thirds of the proportion directed by the British Pharmacopoeia. Of six samples of laudanum, four were of fair quality and one deficient in alcohol, containing only two-thirds of the proportion directed by the British Pharmacopoeia to be used.

Night Visitors.

William Andrews, a decently attired young fellow, described as a packer, was charged at the Westminster Police Court, on Monday, with burglariously breaking and entering the premises of Mr. Charles Henry Booth, a chemist, of 394 King's Road, Chelsea, with intent to commit a felony. Prosecutor and his brother were alarmed by the shop-assistant, about 2 A.M., and on going downstairs found prisoner behind the counter near the till. His boots were off, and when seized by Mr. Frederick Booth, he exclaimed, "All right; I'll be quiet." Nothing had been disturbed. The police were sent for and prisoner given into custody. Ingress to the premises had been obtained by means of a landing-window, 10 feet from the ground, which was open sufficiently wide to admit a man's body. When taken to the station, prisoner said, "Had they given me a few more minutes, I should have obtained what I wanted, and got clear away." The prisoner was remanded for a week.

Messrs. F. Darton & Co.'s premises, 142 St. John Street, Clerkenwell, appear to offer exceptional attractions to burglars, who for the third time within a year have succeeded in entering them and taking away some valuable stock. On the present occasion, a few nights ago, the thieves went up to the roof, forced the bars and staples of the skylight, and thus got inside. Their booty comprised thirty field-glasses, a quantity of gold and other spectacles, and an eye-test apparatus.

He Knows What.

At the meeting of the Goole Guardians last week, the master reported that one of the inmates had obtained some opium by having it sent to her inclined in a Hank of cotton supplied by a local draper. This tradesman was written to, and explained that he had received a letter from the inmate-referred to, asking him to take the cotton to Mr. Timm, chemist, and he would enclose 9d. worth of "he knows what." The Board decided to ask Mr. Timm for an explanation.

A Disappointed Thief.

Florence Vitty, a girl about 14 years of age, met with a cruel disappointment in the course of a raid made upon the shop of Mrs. M. Eyre, of 655 Attercliffe Common, Sheffield. Finding the shop empty she slipped in and made off with a small biscuit-box. On reaching a safe hiding-place she opened her treasure, and found it to be filled with some three dozen boxes of wind and water pills. So disgusted was she that she promptly returned the box, was arrested, and on Friday last ordered to pay a fine of 15s.

The Explosions at a Sheffield Chemist's.

The damage done by the two explosions at the shop of Mr. J. P. Hewitt, wholesale chemist, Division Street, Sheffield, have proved even more serious than was at first anticipated, and will amount to from 500*l.* to 600*l.* Fortunately, Mr. Hewitt was fully insured in the Liverpool, London and Globe and the Alliance Companies. A peculiar incident, and one which shows the value of the regulations which hedge round the storage of inflammable spirits, was that within a few yards of the tank of benzoline which exploded was a huge galvanised-iron tank containing some 50 gallons of turpentine. The intense heat sprung the iron bands surround-

the tank, and rendered the tap completely useless, but fortunately the vessel remained intact.

Free Gifts.

A Stratford chemist has hit upon a novel method of pushing business—that is, novel to the drug-trade, as far as we are aware. He advertises by circular that he will give “to every customer purchasing articles to the value of 5d. an extra article of the value of 1d.; to the value of 10d., one or more articles to the value of 2d.; to the value of 1s. 3d., one or more articles to the value of 3d.; to the value of 1s. 8d. one or more articles to the value of 4d.; and so on in proportion to any amount. Provided always that no free gifts can be given on any purchases of patent medicines or proprietary articles, which are already reduced below invoice prices.”

Morphia Excited Him.

John Filmer, chemist, of King Street, Plymouth, was charged on Tuesday before the Bench of that town with being drunk on licensed premises on the previous day. The landlord was also charged with supplying him with drink whilst already intoxicated. Defendant stated that he was in the habit of taking morphia, and on the day in question was unduly excited thereby, but he was not drunk. The presiding Magistrate, however, read him a moral lecture on the evils of bad habits, and fined him 10s. and costs, the case against the landlord being dismissed.

A Brighton Chemist and his Wife.

Mr. William Goyne Stevens, chemist, late of Brighton, was summoned at the Steyning Petty Sessions this week by his wife for disobedience of an order of maintenance. Defendant did not appear, but Mr. G. A. Flowers (Magistrates' Clerk) said he had received a letter that morning from him enclosing 5l. Mrs. Stevens was sworn, and stated that the amount owing was 6l. 13s. 6d. She would, however, accept the 5l., and the summons was withdrawn. Mr. Flowers told Mrs. Stevens that she could include the balance with the next arrears, should she have occasion to take out another summons.

Junior Pharmacy Ball.

On Wednesday evening, at the Portman Rooms, the fifteenth annual Junior Pharmacy ball came off, and it was a great success. Over 350 people were present, which was by far the largest number since the ball started. The dance was kept up merrily until 4 o'clock. Among those present were Messrs. M. Carteighe, Martindale, Trick, Vixon, Fisk, and Wright, and Dr. Gubb. At the supper Mr. Carteighe gave the usual toast, which was responded to by Mr. Arlass Robinson.

A Manufacturing Chemist Drowned.

On Tuesday, the dead body of Mr. Joseph Edgar Law, aged 26 years, eldest son of Mr. James Law, manufacturing chemist, of Brook Cottage, Castleton, was found in the Hopwood branch of the Manchester and Rochdale Canal. The deceased was a traveller in his father's service, and had been missing from his home since Friday. His father saw him at 4 P.M. on that day on the Manchester Exchange, and he then seemed to be well. It is supposed that on leaving his father he went to Heywood on business, and that he set off home by a short route along the towing-path of the canal, and by some means got into the water. Deceased's pipe was in one of his hands when his body was found. There is no suspicion of suicide or foul play. Deceased was a well-known member of the Rochdale District Commercial Travellers' Association, and had arranged to be married in April.

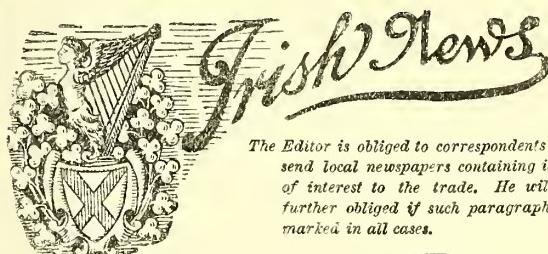
Filing of Trade Catalogues at the Patent Office.

The London Chamber of Commerce has written to the Comptroller of the Patents Office calling attention to the fact that the Librarian of the Patent Office of the United States is making a collection of illustrated and other trade catalogues, price-lists, circulars, and other similar publications for reference by those instituting inquiries in regard to patents, designs, and trade-marks, or making use of the Patent Office library. The Chamber thinks that such a collection would be exceedingly valuable here, so as to per-

manently preserve extremely useful material which might on occasion elucidate the meaning of many trade terms and usages. To this suggestion Sir H. Reader Lack replies that the nucleus of such a collection was formed some twenty years ago, and has since that date been gradually extended. He will consider how far it may be possible to render this collection more complete, and to make it more easily accessible for public reference.

Staining Specimens.

The members of the Sheffield Pharmaceutical and Chemical Society who had the good sense to go to Wednesday evening's meeting had a treat provided for them by Dr. Sorby, F.R.S., the eminent naturalist, who delivered a lecture upon “Staining Specimens.” This was related entirely to the preparation of marine animals as lantern-slides, and securing that the specimens should have the same colours when dead as when alive. The lecture is not one which justice can be done to in a pharmaceutical journal, for, naturally, it is but remotely related to pharmacy, while the greater interest of it was the series of beautiful specimens which Dr. Sorby exhibited with the oxyhydrogen lantern. Mr. J. F. Eardley presided.



The Editor is obliged to correspondents who send local newspapers containing items of interest to the trade. He will be further obliged if such paragraphs be marked in all cases.

Belfast Medical Halls

Have been further augmented by “Waugh's Medical Hall,” 104 Grosvenor Street, opened by Mr. G. H. Waugh, L.P.S.I.

A Death-trap for a Dispensary.

The Castlemartyr dispensary is stated by its medical officer to be in such a state that the drugs, medicines, and surgical appliances are being destroyed from damp. The further description of the place as a death-trap is given, and the medical officer protests against longer dispensing physic in that filthy hole.

A Snub to the Guardians.

The Guardians of the Youghal Union have been cautioned by the Local Government Board in reference to the appointment of Dr. Twomey to the dispensary medical officership at Templemichael, whilst at the same time he was contractor for the supply of drugs and medicines to the workhouse and dispensary districts.

Add it to the Schedule.

At the Temperance Convention held last week in Belfast the hope was expressed that the day would soon come when a conviction would be obtained of the seller of any alcoholic liquors except in medicine-bottles marked “Poison.”

Linseed-meal.

In the Belfast Summons Court, before Mr. Garrett Nagle, R.M., two druggists, named Samuel W. Dowell and Samuel Suffern, both residing on Shankill Road, were summoned under the Food and Drugs Act for selling linseed-meal adulterated with 25 per cent. of farinaceous matter. The defence was that when the meal was bought it was pointed out to the purchaser that he was getting crushed linseed-cake. A fine of 1l. and costs was imposed in each case. Defendants' solicitor said that some thousands of tons of the meal were scattered through the city in different establishments, and that as those cases were of so much importance to the trade, he would ask that the fine in one of the cases be raised to 2ls. to enable his client to appeal. His Worship had no objection, and the fine in Suffern's case was increased to 2ls.

French News.

(From our Paris Correspondent.)

CHEMISTRY.—M. Henri Moissan, who has just been appointed President of the Paris Chemical Society, read an interesting paper at the Paris Academy of Sciences last Monday on carbide of uranium. This new compound has been obtained by heating pure oxide of uranium in the electric furnace together with a given weight of carbon. M. Moissan also gave the result of M. Vigouroux's researches with silicium. A paper by M. Raoul Brullé, a chemist well known for his researches on fatty substances, was likewise read, in which a new method for analysing butter was described.

BACTERIOLOGY.—M. d'Arsonval, and his assistant Dr. Charrin, have found it possible to obtain various vaccines directly by electricity; especially good results were obtained with the vaccine against croup. Diphtheria and pyocyanic toxines have been transformed into vaccines without their passing through animals, by treating them with high electric currents. M. d'Arsonval has already shown the remarkable effects of these currents on the organism, which may be made to pass through a living human body without producing either pain or movement. Animals receiving electricised toxines survive the injections and are vaccinated by the electric toxines. The authors suggest it may ultimately be possible to effect the direct cure of human beings contaminated by microbes by simply passing high electric currents through the body.

RÖNTGEN'S RAYS.—At this week's meeting of the Paris Academy of Sciences, Professor Lannelongue explained some further very interesting results obtained by him concerning the possible applications of Röntgen's discovery in medicine and especially in surgery. M. Lannelongue is continuing his experiments at the Trousseau Hospital, and proposes to communicate the results to the Academy as they are obtained. M. Poincaré also read a paper by M. Charles Henry, who, by utilising his phosphorescent sulphide of zinc, has succeeded in photographing wire behind pieces of money, which absorb these rays. The shadow of the wire remains otherwise invisible on the photographic plate. M. Henry also showed that phosphorescent sulphide of zinc gives a quantity of photographically active Röntgen's rays as well as green rays. M. Moissan presented a note by M. Meslans, of the Nancy School of Pharmacy, regarding the "influence of the chemical nature of bodies on their transparency to the rays." M. Meslans has found that the varieties of carbon, diamonds, graphite, charcoal, &c., are easily traversed by Röntgen's rays, but that their combination of chlorine, sulphur, or iodine renders them opaque. Iodine, sulphur, and phosphorus are opaque as well as their derivatives. An alkaloid is transparent, while its sulphate is not.

THE DISTRIBUTION OF THERAPEUTIC SERUMS.—The following notice has been published this week in the French Official Journal, in virtue of a law passed in April 25, 1895, relative to the preparation, sale and distribution of therapeutic serums and other analogous products. This decision has been taken with the approval of the Consulting Committee of Public Hygiene of France and the Paris Academy of Medicine:—Article 1. The preparation of attenuated virus, therapeutic serums, modified toxines or similar products able to serve in contagious maladies either from the point of view of prophylaxy or therapeutics is authorised in the following establishments. The serums permitted to be sold are also indicated and the decree refers to vegetable substances of organic origin applied to the treatment of chronic or other affections. 1. Pasteur Institutes, Paris and Lille: antidiaphtheric serums and antivenomous serum. 2. The laboratories of Havre, Nancy, Lyons, and Grenoble: antidiaphtheric serum only. 3. The laboratories of M.M. Egasse and Bonyé, 19 Rue des Fossés Saint Jacques, Paris, and M. Bazin, 9 Cours Victor Hugo, Bordeaux, organic extracts prepared according to the Brown-Séquard method. Article 2. These products can be either sold or distributed gratuitously. The authorisation regarding them is temporary and revocable, and they will be subject to the inspection prescribed by law.—This decree is not likely to find favour with pharmacists, as

it practically takes the sale of the serums out of their hands in the leading towns. Already a feeling appears to exist that the Pasteur Institute has been allowed to technically infringe the French pharmacy laws, but the authorities will in all probability continue to allow considerable latitude to that laboratory of miracles, and pharmacists would not at present find any forum for a professional protest.

Foreign and Colonial News.

AN AMERICAN DRUG FAILURE.—Singer & Wheeler, wholesale druggists, of Peoria, Ill., have stopped payment. Their gross assets are returned at \$397,633; their liabilities at \$454,107.

PHARMACY IN NORWAY.—The Pharmaceutical Society of Norway have sent in a petition to the Home Secretary asking that pharmacists may be exempted from the projected law rendering accident insurance compulsory.

ANOTHER SERUM FACTORY.—Merck's factory in Darmstadt have entered the field as manufacturers of diphtheria remedies and other physiological therapeutic agents. This is the third factory of this kind in Germany, the two others being those of Schering, of Berlin, and Meister, Lucius & Brüning, of Hochst.

COLOUR PHOTOGRAPHY.—We observe from a report in a German journal that it is claimed that the problem of photographing in natural colours has been solved by Dr. Selle, of Brandenburg, and at a recent meeting of a photographic society in Berlin twenty-one lantern-slides in colours by the new process were exhibited. No details are given.

WOMEN PHARMACISTS IN ITALY.—Signora Dorina Crespi Andina, whose husband is a pharmacist at Treccate, in Italy, passed her examination as chemist's assistant at the University of Genoa in December last. She is the first woman who holds the pharmaceutical diploma in Italy, and intends to devote herself to the profession in her husband's business.

MR. CHAMBERLAIN'S CIRCULAR.—According to a *Times* telegram, the Cape Town Chamber of Commerce last week discussed Mr. Chamberlain's trade circular. Complaint was made that when colonial customers did give preference to British manufactures they often found that the goods they had ordered had really been made in continental factories.

SEEING THROUGH A STONE WALL.—It is reported from Rome that Professor Salvioni, of Perugia, has invented an instrument called a cryptoscope, by which the eye is enabled by means of the Röntgen rays to see through opaque bodies. The explanation given is that the retina of the eye is impressed by means of the cryptoscope exactly in the same way as a photographic plate.

PHARMACIES AS AN INVESTMENT.—On January 27, Haller's pharmacy at Goeppingen in Wurtemburg, quite a small country place, was sold by public auction to Apotheker Lutz for the sum of 181,000m. (9,050l.). About fifty competitors put in an appearance at the auction. The upset price was 120,000m. (6,000l.), representing the figure at which the seller purchased the business some years ago. In view of the high price paid it is somewhat remarkable to find that the annual turnover does not exceed 700l.

THE DETERMINATION OF CAFFEINE IN TEA.—At the last meeting of the New York Section of the Society of Chemical Industry, Mr. E. H. Gane read a paper on this subject. He said that Paul and Cownley's process, consisting of treatment with magnesium oxide and subsequent exhaustion with alcohol, has been generally followed, but is open to suspicion, and his own work confirmed Allen's, which consists in boiling the tea with water for six hours, filtering, precipitating the colouring-matter with lead acetate, evaporating the filtrate to a small volume, removing the excess of lead by sodium phosphate, and dissolving out the alkaloid with chloroform repeated four or five times. He said that Paul's statement that water would not extract all the caffeine was inaccurate, and submitted results to prove his assertion. A discussion followed which did not add to the information given in the foregoing.

Australasian News.

THE following notes are based upon information contained in the January issue of *The Chemist and Druggist of Australasia*, published at Melbourne. Copies of that journal (price 6d. each) may be had from the publisher, 42 Cannon Street, E.C.

AUSTRALIAN KIESELGUHR.—Australian kieselguhr seems to be in the way of becoming an article of trade. Four samples of it, two being from Victoria and two from New South Wales, have recently been exhibited at Sydney. The best sample was from Eglinton, Victoria. It contained : silica, 87.98; alumina, 1.15; ferric oxide, 1.35; magnesia, .38; lime, 1.06; moisture, 9.38; equal to 101.30.

THE NEW SOUTH WALES TARIFF.—New South Wales pharmacists are much displeased with the new Customs tariff of the colony, which came into force on January 1. The advantages they derive are not considerable, and not in the direction they wished. Methylated spirit has been reduced from 1s. to 1d. per gallon; sulphuric acid from 2s. 6d. per cwt. to nil; acetic acid from 2s. 6d. per gallon to nil; fancy soap from 2d. per lb. to nil; patent medicines from 10 per cent. to nil; naphtha from 6d. per gallon to nil; with a few trifling articles from which duty has been removed. The very high duties on spirits and tinctures, however, remain as before, although the heavy duty on them has for years been a grievance. The original duty on tinctures was only nominal; but when the Customs found that the cordial-manufacturers use them instead of rectified spirit the extra duty was clapped on without any consideration for the chemist. It was the wish of the trade that Parliament should make an exception in the tinctures used by the chemists and druggists, or give them relief in some way as against the cordial-manufacturers. Bitters, essences, fluid extracts, sarsaparilla, tinctures, medicines, infusions, and toilet-preparations remain on the permanent tariff according to percentage as above stated. As to patent medicines, they will be duty free if they contain no alcohol.

THE INCOME OF SOUTH AUSTRALIAN PHARMACISTS.—An interesting paper has been presented to the South Australian Parliament, throwing light on the comparative prosperity of chemists in South Australia. It gives the amount of income-tax paid in 1885 and 1894 by separate classes of people, and supplies particulars of the incomes. In 1885 the exemption was 300*l*, and the tax was 6*d*. in the pound on income from property, and 3*d*. on that from personal exertions. In 1894 the exemption had been reduced to 200*l*, and the tax had been doubled. By taking into account the exemption and calculating on the tax paid, it is easy to get at the aggregate income of the whole body, though a source of error is the impossibility of distinguishing the tax paid on property from that on personal exertions. Thus, in 1885, the chemists who paid income-tax numbered sixty-seven; the amount they paid was 160*l* 14*s*. which, reckoned at 3*d*. in the pound, corresponds to 12,856*l*. of taxable income. Adding 300*l*. exemption for each man, or 20,100*l*. we get a total of 32,956*l*. net income for sixty-seven chemists, or an average of 492*l*. In 1894, although the exemption had been reduced to 200*l*, only fifty-eight chemists paid the tax, which was then 6*d*. in the pound, and returned 323*l*. 12*s*. 6*d*. to the Treasury. This corresponded with 12,945*l*. taxable income, which, added to the exempted income (11,600*l*.), produces 24,545*l*. for fifty-eight men, or an average of 423*l*. Judging from these figures alone, we should infer that chemists were only one-seventh less prosperous in 1894 than in 1885. But it is known that the number of chemists has materially increased, so that while the number paying income-tax has lessened, in spite of the reduction of the exemption, the inference is that those earning less than 200*l*. a year have multiplied. Further, the analysis of the incomes on which tax has been paid shows a strange redistribution of prosperity. While sixty-seven chemists in 1885 paid tax on incomes exceeding 300*l*, only thirty-seven paid on such incomes in 1894; and while forty-six paid on incomes between 300*l*. and 400*l*. then, only nine paid in 1894. The number who paid on incomes of 400*l*. to 500*l*. increased from seven to fifteen, but the few having more than that income seem to have got poorer.

Pharmaceutical Society of Great Britain.

EVENING MEETING.

THIS week's inauguration of the Tuesday series of evening meetings was a decided success, for although the audience did not more than half fill the examination-hall, in numbers it was above the average, fully a hundred being present. The presentation of the S. M. Burroughs Memorial Fund to the Society had brought several unusual visitors, and this function was the first item on the programme. Mr. Carteighe for once appeared in a dual capacity—viz., as President of the Society and Chairman of the Memorial Fund Committee—and perhaps there could be no better tribute to the man whom they honoured than the catholicity of interests represented by the members of the committee—Mr. Carteighe, Mr. Heinrich Helbing, Mr. John Moss, and Mr. A. C. Wootton, each representing distinct branches of pharmacy, while Mr. Frank Smith, L.C.C., erstwhile leader of the Social Wing of the Salvation Army, recalled Mr. Burroughs's intense interest in all that pertained to the social welfare of mankind. Amongst those present we noticed Mrs. Burroughs, Mrs. Carteighe, Mr. and Mrs. Wm. Martindale and Miss Martindale, Mr. and Mrs. H. C. Sudlow and Mr. and Mrs. J. Collett Smith (B., W. & Co.'s), Dr. Darmstaedter (Berlin), Mr. P. W. Squire, Mr. Tindall (Bailliére, Tindall & Cox), Mr. and Mrs. George Haller, Mr. and Mrs. Gerald Wetherman, Mr. and Mrs. J. C. Umney, Mr. Taubman (T. Morson & Son), Mr. H. Wilson (Southampton), Mr. Thomas Greenish, Dr. A. S. Gabb, and several of the officers and leading metropolitan members, but Mr. Walter Hills and Mr. Martindale were the only members of Council who gave the President their support.

Mr. CARTEIGHE, in opening the proceedings, said before the papers were read they would hear a statement regarding the

S. M. BURROUGHS MEMORIAL FUND,

and in connection with that he explained that he had received letters and telegrams of apology from old friends of Mr. Burroughs, amongst them Mr. H. M. Stanley, M.P., who was detained by his duties in the House, and from Mr. H. S. Wellcome, who had intended to be present but was unexpectedly detained at the last moment. He then called upon Mr. Helbing, the Honorary Secretary of the committee, to make his statement.

Mr. HELBING said that when, a year ago, he heard of Mr. Burroughs's death he felt how powerless are human beings against fate. It seemed impossible that the man had gone who for many years had formed a centre for so many, and whose company one always looked for as full of brightness and sunshine. It was, therefore, but natural that his friends should try to retain fresh amongst them the memory of the man to whom they were so much attached, and endeavour in some way to perpetuate his name. Mr. Burroughs had numerous friends, for everyone who came in close contact with the man was bound to like him; and when he passed it was not the successful business man whom they mourned so much as the genial Mr. Burroughs—the man with a large heart, one who tried to be friendly to all, and acted as a friend to all in need. Mr. Burroughs was a busy and successful man, but he was never too busy not to be able to find time for his friends. Ever ready to help where help was required, he took friendly interest in the affairs of others, and had always their welfare at heart. These were the qualities which moved them to found a memorial worthy of such a man, and that day they knew that the goodness of the man had not been forgotten, for by the support they had received they were able to carry out the scheme which he had laid before the general meeting a year ago that day. They had raised a substantial fund, the interest of which would be sufficient to enable every year a pharmaceutical chemist, who had talent but not the means to do so, to continue and advance his studies for another year as a Burroughs Scholar. The committee hoped not only to have Mr. Burroughs's memory honoured in time to come, but also that good would be done by enabling young pharmacists to enlarge their knowledge.

The fund which the committee handed over in trust to the Council of the Pharmaceutical Society had been freely and liberally subscribed. From all parts of this country, from the Continent, the United States, and even Africa, friends had replied to the appeal, and the list of subscribers was quite international. It comprised not only the individual pharmacist, the wholesale druggist, and the ochemical-manufacturer, but a great number of personal friends of Mr. Burroughs who had no connection whatsoever with business in its pharmaceutical branches or with the Society. Men of science and of literature, politicians and members of Parliament, medical men and others had combined together to do honour to their deceased friend. The great majority were in favour of a scholarship as the best and most suitable form of memorial. In asking the Council of the Pharmaceutical Society to become trustees of the Scholarship Fund, and to assist the Burroughs Scholar by allowing him to make use of the Society's laboratories, the committee, Mr. Helbing said, were aware of the good work that had been done in those laboratories and the interest the Society takes in promoting pharmaceutical education, and they thought it only right, in thanking the President for having given his assistance by becoming Chairman of the Executive Committee, to express their assurance that they felt perfectly confident that in the hands of the Society the Burroughs Scholarship Fund would be the means of doing good, and of keeping their friend's memory alive and name respected for all time. (Applause.)

Mr. MOSS, the Honorary Treasurer of the fund, was next called upon. He said that much of the ground he should have liked to cover had already been gone over by the previous speaker. This occasion was a very formal one, but it marked an important step in the growth of the Burroughs Memorial. Many there could not help feeling the varying emotions which the occasion called forth. There was pleasure that a fitting memorial had been created, but it was subdued, overwhelmed by the recollections of a year ago, when they heard the news of the passing away of their friend Silas Maiuville Burroughs. They could not then realise that their friend had gone, that they would never feel his hearty hand-grip, never see his face again, and all that remained for them was to learn how to remember him. Anyone who had attended the memorial service at Dartford while the body of their dead friend was being buried on the slopes of the Mediterranean would recollect that amongst the first thoughts was this—How could they perpetuate the memory of Silas Maiuville Burroughs? Mr. Carteigne was consulted, and with his opinion in their favour they felt that they could go on. It was not because Mr. Burroughs was successful in business that they wished to honour his memory, for business success was a common thing and brought its own reward; it was the man who gave of his goodness to others less strong, who was ever ready to help young men, who encouraged those who were seeking after truth—these and other like features of his character it was which led them to think that any memorial which they might erect to him should take the form of a scholarship to promote the endeavours of the young. That purpose, they thought, would be best fulfilled by having the scholarship in subjects in which Mr. Burroughs was educated. Mr. Moss proceeded to speak of the benefits of scholarships, and, as the last of the Senior Bell Scholars, he said he knew that such scholarships only called up feelings of respect for the men whose memory they were bound to perpetuate. He hoped that the present scholarship in higher education would be of inestimable advantage to future generations of pharmacists, and concluded by handing the Chairman a cheque for £50.

The PRESIDENT, on the part of the Council, thanked the donors. He believed that the work done by the Pharmaceutical Society of Great Britain was work which was well appreciated, and whatever the various opinions regarding pharmaceutical education might be, they recognised the fact that as the law required of them a certain standard of education they should arrange to give it in that house. But the Council had recognised the necessity which there was in some cases to go beyond the law's requirements and had provided the means for further training in chemical and pharmaceutical knowledge. He had no doubt that for some years the Burroughs Scholar would work in that institution, and so perpetuate in a fitting form the memory of the man whom they honoured, and one that the man would

have chosen himself. In the name of the Council he accepted the trust, and mentioned that later on he would ask the members of the committee to attach their names to the deed which would be drawn up. On behalf of the committee he thanked Mr. Helbing and Mr. Moss very heartily for the splendid work which they had done in promoting the memorial. (Applause.)

At this stage there was an adjournment to allow those who had come to the meeting for the non-scientific business to retire, and tea and coffee were served to them in the Council-chamber. On resuming the PRESIDENT called upon Professor Dunstan to read two communications from the Research Laboratory, and on ascending the platform Professor Dunstan had a hearty reception. The first paper was the thirteenth of the series on the constituents of aconite, and was entitled

THE ESTIMATION OF ACONITINE,

By Professor Wyndham R. Dunstan and Thomas Tickle.

Aconitine furnishes on hydrolysis 18.5 per cent. of benzoic acid and 9.25 per cent. of acetic acid, or when heated with water alone only acetic acid is separated. In previous papers it has been shown that there is no difficulty in obtaining accurate results with pure aconitine by analytical processes based on these facts, nor is there any difficulty in estimating the quantity of aconitine in presence of benzacouine or of aconine. The authors have made determinations with mixtures of these known alkaloids by four different methods, three of them direct in which the acetic acid liberated is distilled and titrated. Of the total alkaloid may be completely hydrolysed in alkaline solution, the liquid acidified with dilute sulphuric acid, the benzoic acid extracted with benzene, and the acetic acid then distilled off and titrated. The amount of acetic acid found is calculated into aconitine and from the amount of benzoic acid the amount of benzacouine may be calculated allowing for that derived from the aconitine present. A fourth and indirect method of getting at the quantity of aconitine present in a mixture containing also benzacouine and aconine, consists in hydrolysing with a known volume of standard alcoholic solution of alkali. The amount of alkali remaining is calculated, and from the loss the total acidity is reckoned. If the weight of benzoic acid is found by extraction from the acidified solution, and this deducted from the total acidity, the remainder may be calculated as acetic acid. Wherever benzoic acid has to be extracted from a solution also containing acetic acid, benzene is preferable to ether, because the latter extracts notable quantities of acetic acid. Numerous experiments with aconitine, and with mixtures containing aconitine, have been made with these various methods with the view of finding a sufficiently accurate process of estimating the acetic acid. The indirect method in which only the benzoic acid is directly determined, and the acetic acid calculated by difference, has not afforded satisfactory results, chiefly because all errors are thrown upon the acetic acid. The authors, therefore, employed a process in which the acetic acid is directly determined. Unless great accuracy is secured, it is obvious that no process founded on the principle of estimating the acetic acid can be of any value for pharmaceutical purposes. As aconitine furnishes less than 10 per cent. of this acid, and, as in dealing with aconite-root or galenical preparations made from it, the quantity of aconitine actually operated on would probably not much exceed 0.1 to 0.2 grammes, and therefore, less than 0.01–0.02 grammes of acetic acid, it is obvious that no coarse method would be of the slightest use pharmaceutically. The authors have carried out a large number of experiments in testing the adequacy of various methods, and find that the process which gives the most accurate and concordant results depends on the fact that when aconitine sulphate is heated in a closed tube with water at 125° C. for three hours it undergoes partial hydrolysis with production of one molecular proportion of acetic acid and the separation of a very little benzoic acid. The liquid taken from the tube is made alkaline with pure soda, and the alkaloid removed by shaking twice with chloroform, then acidifying with pure sulphuric acid, removing the small quantity of benzoic acid by shaking once with benzene, then distilling the acid liquid until the whole of the acetic acid has come over, and titrating the distillate

with standard N/25 soda, or better, baryta, water. The most suitable indicator for the purpose is phenolphthalein. As showing the accuracy of the method the authors mentioned that for aconitine 2228 grammes 8.65 c.c. of N/25 baryta was required, equivalent to aconitine 2239 grammes. Another experiment: aconitine taken 3054 gramme, aconitine found 3061 gramme. This process answers well for the estimating, not only of small quantities of aconitine alone, but when mixed with the other known constituents of the total alkaloid of the plant, benzaconine andaconine. Proceeding to apply this method to the determination of the aconitine in the total alkaloid extracted from the root of *Aconitum Napellus*, and in that extracted from the tincture and extract of aconite, the authors first endeavoured to extract the aconitine from the other alkaloids present, this being effected by converting the total alkaloid into hydrobromide by solution in just enough dilute aqueous hydrobromic acid, evaporating the solution, and removing the crystallised aconitine hydrobromide. By repeated evaporation, &c., nearly all the aconitine and much of the benzaconine are removed. The alkaloid is then regenerated, and the process of crystallising as hydrobromide repeated. Finally, an amorphous resinous mixture is obtained from which no more aconitine can be crystallised as hydrobromide. A little aconitine, however, still remains, since a solution of the alkaloid produces tingling of the tongue. On applying the process for determining the acetic acid to numerous specimens of alkaloid freed from nearly all the aconitine in this manner, and to mixtures of this alkaloid to which a known quantity of aconitine had been added, the result has invariably been the same—viz., the quantity of acetic acid obtained has been largely in excess of the amount derived from the aconitine present, even after a very liberal allowance has been made for the aconitine not removed as hydrobromide. In mixtures in which the quantity of aconitine was not believed to much exceed amounts ranging from 1 to 10 per cent. the amounts calculated from the acetic acid found were in the vicinity of 10, 20, 30, and 40 per cent. It was proved that the acid was acetic acid, and the authors have spent a considerable amount of time in trying to definitely ascertain the cause of these high results, but so far without complete success. Whatever plan is followed for the determination of the acetic acid the amount found is much higher than the expected quantity, and the highest results are obtained when any process involving complete hydrolysis by alkali is used. The most probable explanation of this disappointing result is that there occurs in the plant, and therefore in the total alkaloid, some substance which, like aconitine, furnishes acetic acid on hydrolysis. Whatever the explanation may be it is clear that at present the determination of the acetic acid furnished by the total alkaloids of *Aconitum Napellus* cannot be taken as a basis for the calculation of the quantity of aconitine, and until a satisfactory process for the estimation of aconitine in the total alkaloid has been found no progress can be made in standardising the galenical preparations made from the plant.

The second paper was then read—viz.,

THE DETECTION OF ACONITINE.

By Professor Wyndham R. Dunstan and Francis H. Carr.

At the present time there is no chemical test for aconitine which is sufficiently specific to be used in qualitative analysis for the detection of small quantities; and on this account in toxicology the physiological action is generally relied on as a proof of the presence of this alkaloid. While experimenting on the oxidation products of aconitine the authors noticed a previously unobserved reaction which is sufficiently distinctive and delicate to be of service in detecting aconitine, and may prove of value in toxicology. It depends on the production of a purple crystalline sparingly soluble permanganate of the alkaloid, which is precipitated when a solution of an aconitine salt is mixed with a slight excess of potassium-permanganate solution. The purple precipitate is fairly stable, especially in presence of a small quantity of acetic acid; in fact, a slightly acidified solution of aconitine acetate furnishes a precipitate which darkens only very slowly, but a large excess of acid must be avoided. In very dilute solutions the micro-crystalline precipitate appears after vigorous stirring. Under the microscope the precipitate is seen to consist of

pyramidal needles, generally arranged in tufts or rosettes. When the precipitate is heated with the liquid it rapidly darkens with production of an oxide of manganese. The precipitate dissolves in concentrated sulphuric acid without coloration, and on heating the solution benzoic acid sublimes. When the dried and almost black precipitate is gently heated, acetic acid distils from it. The reaction is extremely delicate: a solution containing 1 part of aconitine in 4,000 (0.25 per cent.) gives a distinct precipitate after standing and stirring; whilst a solution containing 1 part of alkaloid in 2,000 (0.5 per cent.) gives an immediate precipitate. One drop (0.05 c.c.) of a solution of this strength gives a distinct purple crystalline precipitate when a drop of permanganate solution (decinormal) is added, which means that 0.00025 gramme of aconitine has been detected without difficulty. The precipitation of the aconitine is never quite complete, even in neutral solutions, owing to the slight solubility of the permanganate, so that the reaction cannot be applied gravimetrically. The crystalline salt has been collected and analysed. Its composition is represented by the formula $(C_{33}H_{45}NO_2)_x(MnO_4)_y$, since it yields 10.89 per cent. of manganese trioxide (Mn_2O_3), the amount required by this formula being 10.31 per cent. When the salt is kept in solution or collected and dried it gradually decomposes, oxide of manganese separating, and the aconitine undergoing oxidation to a crystalline nearly neutral substance which still appears to contain both the benzoic and acetic groups of aconitine. This substance is now under investigation. The behaviour of the principal alkaloids towards potassium permanganate has been studied by Beckurtz, who states that aconitine salts give no precipitate but a brown coloration. The authors suppose that the aconitine employed was highly impure. They have re-examined the reaction of the more important alkaloids with potassium permanganate, and have found that the only alkaloids which give a purple precipitate are cocaine, hydrastine, and papaverine, but the permanganates of these alkaloids are easy to distinguish from the aconitine salt. Solutions of cocaine salts are not distinctly precipitated in solutions containing much less than 1 per cent. of the alkaloid. Like aconitine, the cocaine salt is crystalline, but is readily dissolved by water. The same is true of hydrastine, and in this case the precipitate is pinker than the aconitine salt, and it is not crystalline. Papaverine is only precipitated in solutions of about the same strength, and here, again, the precipitate is distinctly pink, and is amorphous. Moreover, aconitine permanganate is not changed by the addition of a drop of bromine-water to the mixture, whilst the cocaine salt turns a deep orange, and that of hydrastine a bright yellow. These three alkaloids are, however, so readily distinguished from aconitine by other reactions that there is scarcely any possibility of their being confounded with it. Of the other aconite alkaloids pseudoaconitine behaves most like aconitine, but this crystalline permanganate is not precipitated readily in solutions containing much less than 5 per cent., and the precipitate is more stable than the aconitine salt. On heating it with the liquid it dissolves, and on cooling separates out in acicular crystals; whilst in the case of aconitine the purple precipitate rapidly darkens. Aconine salts are not precipitated by potassium permanganate, but they rapidly effect decolorisation of the permanganate. In strong solutions salts of benzaconine furnish a permanganate resembling the aconitine salt, but a 1-per-cent. solution of benzaconine (acetate) is not precipitated, so that there is no difficulty in distinguishing this alkaloid from aconitine, nor does the presence of this alkaloid materially affect the recognition of the aconitine in dilute solutions. In isolating aconitine from mixtures (e.g., in toxicology) as a preliminary to applying this test, the slightly acidified extract should be well shaken with ether to remove extraneous substances soluble in ether; the liquid should then be made alkaline with a slight excess of ammonia (never with soda or potash), and the aconitine extracted with ether. The permanganate test should then be applied to a 1-per-cent. solution of the etherial residue made acid with acetic acid, or the etherial solution may be shaken with diluted acetic acid. As a confirmatory test for aconitine, the fact that the base gives off acetic acid when heated to 190° C. may occasionally be of service, since the operation can be conducted in a capillary tube.

At the conclusion of the papers, Professor Dunstan gave a demonstration of the various reactions.

DISCUSSION.

Mr. J. C. UMNAY observed that cocaine was one of the alkaloids which gave a reaction similar to aconitine, and he asked Professor Dunstan if there was any connection between the precipitate and the benzoyl group, which is present in both.

Mr. A. W. GERRARD said there was need for a test for aconitine, and any man who discovered a reliable one did a service to toxicology. He asked Professor Dunstan if he was confident that this was such a test. Had he experimented with the alkaloids of *Veratrum viride*, which were so closely allied to those of aconite?

Mr. MARTINDALE was sorry that the authors had not got a ready means of estimating aconitine, but he was inclined to think that they were drawing near it, for when they got something that they could see and weigh, as the aconitine permanganate was, they were getting at definite results.

Professor ATTFIELD said that these papers were not alone of interest in toxicology, but they would also be in pharmacy. He sympathised with the authors in their failure to estimate aconitine, but he was not disposed to be so despondent as Professor Dunstan, for the skill which had enabled him twelve years ago to isolate strychnine from brucine, would enable him to overcome the present difficulty. He agreed with the statements as to the comparative uselessness of any process which merely took cognisance of the total alkaloids, and not of aconitine alone. While congratulating the authors he ventured to say that their results confirmed the suspicions he had had, as editor of the *Pharmacopoeia*, that though they might get assay processes for other drugs they would get none for aconite. But they were very distinctly near this desirable end. (Applause.)

Mr. JOWETT called attention to the fact that these papers showed the advantages of true research. The discovery of the permanganate test would not have been possible otherwise than by the author's searching after truth, and not merely experimenting with the view of getting results, whatever they might be.

Professor DUNSTAN, in replying, said he could at present say nothing definite about the benzoyl group, as we know next to nothing about what is the central nucleus of aconite and these other alkaloids. They had tried veratrine, but it did not behave at all like aconitine. He then replied briefly to the other speakers, pointing out that most of the queries were anticipated in the papers.

The PRESIDENT, in conveying thanks to the authors, said that practical results in Germany had always resulted from scientific research. It was impossible to get practical results without attacking things as a whole; and if the Pharmaceutical Society could not afford to do that, such research would have to be given up, for nobody else could do it. He protested against the word "research" being applied to the work of a man who simply put something in a test-tube and added something else to it to see what would result. A discovery made that way was luck. (Laughter.) Any laboratory boy could do it. Such subjects as this must be attacked from the chemical side first, and the facts applied afterwards. (Applause.)

The next paper read was on the

ESSENTIAL OILS OF BLACK AND WHITE PEPPERMINT.

By John C. Umney.

Owing to the lateness of the hour the author simply submitted the leading facts in his paper, and as our report is wholly derived from what he said it is somewhat meagre. Black and white peppermints have been grown at Mitcham for 150 years, and for 30 years elsewhere in England; but no white peppermint has been grown at Market Deeping or Hitchin. The black variety is a hardier plant, and yields more essential oil; but although both plants are botanically identical the oils obtained from them are different, and the aroma of the "white" oil is much the finer. There are, however, distinguishing characteristics, and these may be seen from the following contrast, which is a tabular statement of what Mr. Umney said.

<i>Black Peppermint.</i>	<i>White Peppermint.</i>
Purple stem, dark-green leaves, rarely flowers.	Leaves more lanceolate and lighter green; flowers greyish.
<i>Oil</i> : Yield, 8 lbs. per ton.	<i>Oil</i> : Yield, 3 to 4 lbs. per ton.
Cooled by freezing; yields menthol readily.	Does not yield menthol by simple freezing.
Sp. gr., 0·9036.	Sp. gr., 0·9058.
Spec. rot., -25·5°.	Spec. rot., -33°.
Glacial acetic acid gives pale blue colour.	Glacial acetic acid gives dark blue colour with copper fluorescence.
Distillate under 200° C. 24 p. c.	Distillate under 200° C. 5 p. c.
Menthol as esters, 3·9 p. c.	Menthol as esters, 13·6 p. c.
Total menthol, 63·1 p. c.	Total menthol, 65·5 p. c.

The esters were found on examination to be the same—derivatives of acetic and iso-valerianic acids—but the proportions of these could not be determined. Mr. Umney thinks that therein lies the secret of the superiority of the white peppermint oil over the white.

Mr. MILLARD asked if altitude had anything to do with the superiority of one oil over the other, and how the two oils could be distinguished.

Mr. MARTINDALE was surprised to hear that so much of the black oil was cultivated, and asked Mr. Umney if he had any idea what plants were favoured by American distillers.

Mr. MACEWAN said that two years ago he had spoken to Mr. A. M. Todd, of Kalamazoo, Mich., about this matter, and Mr. Todd told him that he had heard so much about the Mitcham white peppermint being superior to black that he had some seedlings sent out from Mitcham. He now had several hundred acres growing, and his experience corroborated the general observation. It would be interesting if that matter were followed up, and, perhaps, Mr. Umney might determine how oils distilled from Mitcham plants grown in the United States compared with English oils.

Mr. E. M. HOLMES stated that black peppermint had flowered in his garden for years, although that was not general. He also referred to the great effect which different soils and climates have upon peppermint plants, quite altering the odour.

Mr. MOSS hoped that Mr. Umney would get that information about the proportions of the esters, for therein seemed to lie the secret of producing the most highly esteemed oil.

Mr. UMNAY in replying said that although altitude did have a material influence upon lavender, he had no evidence one way or the other that the same held good for peppermint. In regard to American oil, he had observed that the majority of the best oils gave 12 to 13 per cent. of menthol esters, like the white Mitcham oil, and he was now endeavouring through correspondence to find what plants yield those fine oils in Wayne County.

The PRESIDENT then closed the proceedings, remarking that if Mr. Umney carried his investigation far enough he would be able to produce peppermint oil artificially.

Deaths.

APPLEBY.—On February 6, Mr. Frederick Appleby, chemist, Market Square, Retford. Aged 81. Mr. Appleby had been in business at Retford for sixty years, and leaves one surviving son, Dr. Appleby, of Newark.

BROOKS.—On January 30, Mr. Owen Brooks, chemist and druggist, Llandudno. Aged 50.

FOOTTIT.—On February 9, Charles Miller Footitt, of Glan-y-Ffordd, Maidenhead, late of Great Marlow. Aged 49.

MAIR.—At 162 Ferry Road, Leith, on January 31, Alexander Mair, chemist. Mr. Mair was, for a number of years, in the employment of Messrs. J. F. Macfarlan & Co., North Bridge, Edinburgh. Early in life he started business on his own account in Ferry Road, which was then the centre of a growing district, and he carried on business there with great success for about twenty years.

REDMAN.—The death has occurred, at the age of 80, of Mr. Frederick Redman, druggist, 4 Anderson's Lane, Lincoln. Deceased had conducted a druggist's business in the city for a great many years.

SAXBY.—On February 2, Mr. Henry Saxby, pharmaceutical chemist, Lewes.

WILLIAMS.—On February 2, Mr. Franklin Williams, chemist and druggist, Brock Street, Chester, at the age of 72.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on February 5 at 67 Lower Mount Street, Dublin, at 3 P.M. Present: Mr. W. F. Wells, jun. (President), Mr. Downes (Vice-President), and Messrs. Grindley, W. Hayes, C. Evans, Montgomery, Lyons, Beggs, E. Murray, Whitla, Conyngham, and Professor Tichborne.

LEGAL SUCCESSES.

The PRESIDENT stated that since the last meeting they had had a few successful prosecutions. At Rathfrelan they recovered two penalties against a man for selling and keeping open shop for the sale of poisons. The defendant was not satisfied with the result, and appealed. The appeal came before the County Court Judge at Newry Quarter Sessions, and the contest there seemed to be whether the Society could be coerced into accepting one penalty. The Society's counsel declined to do so, and the Judge said he would give his decision on the following Tuesday, and at the same time urged them to accept one penalty. He (the President) told Mr. Galway, their solicitor, to hold out for the two penalties, and he did so, wherenon the Judge adjourned his decision to the next Sessions, saying at the same time that he "would do his best to upset them" (the Society). It was very hard that they should be brought three times to Newry about the one case. They had another case in Belfast against a Scotch firm who sold perchloride of mercury to the Society's inspector, whom they did not know. When the case came on, a young barrister, acting for the Society, first got the Magistrates to alter the summonses, and when that was done the Magistrates dismissed them. They were according to a form prescribed by their solicitor, Mr. Clay, and there was no doubt they were good. Mr. Galway issued fresh summonses at his own cost, and the result was that he obtained two convictions against the defendants, with penalties of 5*l.* in each case and 1*l.* costs, for unlawfully selling and for keeping open shop. It was hardly necessary to refer to the recent decision of the Queen's Bench Division in the Cleeland case. The case was very well placed before the Judges and argued by counsel on both sides, and the decision was a very important one in the Society's favour and a very useful one. One of the Judges said that a limited company could not under any circumstances be a pharmaceutical chemist, and could not use the title of "pharmaceutical chemist." There was another important case in which the Society were concerned coming on next Monday, and their counsel thought that the decision in Cleeland's case would help them. They had a very strong chance of success; but he supposed that, in the event of its going against them, it was the wish of the Council that an appeal should be taken.

Mr. HAYES: I think that has been settled.

Mr. GRINDLEY: We are bound to go to the highest court.

THE ASSISTANTS' ASSOCIATION.

A letter was received from Mr. David O'Donovan, Assistant Secretary of the Pharmaceutical Chemists' and Apothecaries' Assistants' Association of Ireland, asking for the use of a room or rooms in the Society's house for the purpose of holding their meetings, and offering to make a payment for same and to conform to such arrangements as should be agreed on.

A discussion took place, in the course of which it was stated that the Council were desirous to meet the views of the applicants, but that the accommodation at their disposal was limited; and finally, on the motion of the VICE-PRESIDENT, seconded by Mr. BEGGS, it was resolved to inform the applicants that the Council were themselves contemplating the formation of a Students' Association, having objects similar to those of the applicants, but that they would give them the use of the committee-room for their fortnightly meetings until the Council's own arrangements should be perfected.

NO QUARTER.

Mr. Alexander Bryan, of Agnes Street, Belfast, who was fined 10*l.* on November 26, 1895, for breaches of the Pharmacy Act, wrote asking the Council for a mitigation of the penalties. He stated that he was a young man commencing

business, and that he had since qualified as a registered druggist; and he promised to observe the law in future.

Mr. GRINDLEY: This is the gentleman who went into business before he passed the examination.

The REGISTRAR said that at the time of the offences the defendant was not even a druggist. There were two penalties of 5*l.* each for unlawfully compounding two separate prescriptions, and a penalty of 1*l.* for selling poison.

Mr. CONYNGHAM said there was no excuse whatever for a man in Mr. Bryan's position making up prescriptions.

It was ordered that the applicant should be informed that his request could not be complied with.

COMPANY APPRENTICES—A DIFFICULT PROBLEM.

A letter from Mr. R. J. Edwards, of Corn Market, Belfast, enclosed a memorial from nine assistants and apprentices in the employment of Messrs. Grattan & Co. (Limited), of that city, praying that their cases might be taken into consideration with a view to their being admitted to the examination for the licence. The memorialists stated that they had received with unspeakable sorrow the judgment of the Court in the case of Cleeland v. the Pharmaceutical Society of Ireland, deciding that the firm with which they were connected could not give certificates of apprenticeship to persons who had served four years or more in their employment. As apprentices they had given undivided attention to the business and endeavoured in every way to qualify themselves as pharmaceutical chemists. Six others who had worked with them as apprentices and afterwards became assistants had at different times been admitted to and had passed the examination, and were now licentiates of the Society; and the acceptance of their certificates had been an assurance to the memorialists that their position was equally secure. The first five of the memorialists had passed the Preliminary examination, and were in possession of certificates in all the subjects in which qualification was required for the licence. The sixth memorialist had passed the Preliminary, and was at present attending lectures and classes. The remaining three were preparing for the first examination. The memorialists said they addressed the Council solely on their own responsibility, and were in no way under the guidance either of the firm or of Mr. Cleeland, and they signed as follows:—

John G. Yoxall, apprenticed May 2, 1887, eight years and eight months in business; Robert J. Edwards, December 2, 1888, seven years and seven months; Frederick Martin, April 15, 1889, six years and nine months; Walter Yoxall, July 2, 1889, six years and seven months; R. J. Bethune, August 1, 1890, five years and six months; W. McBride, March 17, 1890, four years and ten months; James Davis, January, 1892, four years; Alexander Elliott, August, 1893, two years and a half; and T. Scott, December 1, 1893, two years and two months.

The memorial was discussed in committee; but we are authorised to state that, on the one hand, it was pointed out that the case of Mr. Cleeland had been specially recommended by the Queen's Bench Court to the consideration of the Council, and was otherwise of an exceptional character; whilst, on the other, it was contended that the cases of the nine memorialists were so similar to that of Mr. Cleeland that it would be unjust to facilitate him and at the same time to withhold facilities from them. The President submitted a resolution in favour of admitting Mr. Cleeland to the Licence examination in accordance with the wishes of the Judges of the Queen's Bench Division, as an act of grace not to be drawn into precedent; and Mr. Hayes submitted an amendment in favour of admitting to the examination in question not only Mr. Cleeland, but also any other candidates similarly situated, who should apply before March 25 next, upon their producing satisfactory evidence of having complied with the educational requirements, each case to be decided on its own merits.

The PRESIDENT stated that although he had put his motion on the notice-paper in compliance with the wish expressed by the Judges, he did not believe that either it or the amendment could be legally carried out.

The President having asked leave to withdraw his resolution, Mr. Hayes objecting, he (the President) ruled his own motion out of order as being illegal, and Mr. Hayes' amendment therefore fell through.

Professor TICHBORNE moved—

That the memorial of Mr. Cleland, and also the memorial sent by Mr. Edwards, be submitted to the legal adviser of the Society, with a view to get advised as to the legal powers of the Council to grant said memorials.

Mr. BEGGS seconded this proposal, which was unanimously agreed to.

THE GOVERNMENT VISITOR'S REPORT.

The PRESIDENT remarked, in reference to the report of Dr. Duffy (already published), that it contained nothing that was not favourable to the Society. It bore testimony to the great improvements which had been accomplished in their examinations during the last ten years. The only criticism that it contained related to the stopping of the *viva voce* examination in a particular branch, and on that point he (the President) thought they should write to the Privy Council stating the fact that before the report was received the attention of the examiners was called to it.

It was ordered that copies of the report should be sent to the daily newspapers of Dublin, Belfast, and Cork.

COUNTRY COUNCILLORS' TRAVELLING-EXPENSES.

On the motion of the PRESIDENT, a sum of 22*l.* was ordered to be annually allocated in payment of the expenses of members of the Council who came up from the country to attend the Council meetings and act as visitors at examinations.

NEW MEMBERS, &c.

Mr. Francis W. Brittain, 84 West Street, Drogheda; Mr. William S. Duggan, 18 Castlewood Avenue, Rathmines; and Mr. Walter J. Healy, 82 West Street, Drogheda, were elected members.

Messrs. George L. McCormack, Monkstown, co. Dublin, and Richard A. L. Wilson, Church Square, Monaghan, were nominated for membership.

Mr. Redmond Kerm, Oranmore, co. Galway, was nominated for election as an associate druggist.

The Council then adjourned.

The Winter Session.

CHEMICAL SOCIETY.

LAST week's meeting was a night of oddments, and the attendance accordingly fell below par. Professor TILDEN was called upon to read the first paper, which was in regard to

PHOSPHORIC ANHYDRIDE AND METAPHOSPHORIC ACID. He and Mr. R. E. Barnett were by accident led to take up the investigation of the molecular weight of the anhydride, which is the only phosphorus oxide to which a diphosphoric molecule is accorded, all the rest being tetraphosphoric. The anhydride has been considered by inference to be P_2O_5 , Victor Meyer having from the vapour-density of the pentasulphide, assigned to it the formula P_2S_5 , and as the sulphur and oxygen atoms seem to behave like twins it has been assumed that the pentoxide is P_2O_5 . The authors of the present paper have succeeded in taking the vapour-density of the anhydride, and the figures that they obtained, together with corroborative evidence, show that the simplest expression for the anhydride is P_4O_{10} . Incidentally the authors discovered that metaphosphoric acid, HPO_3 , is volatile, so they determined its vapour-density; but it underwent dissociation, the results indicating that the molecule is $14H_2P_2O_6P_4O_{10}$, but reducing it to the simplest expression we may regard the formula as $H_2P_2O_6$.

Mr. VERNON HARCOURT (President), in opening the discussion, warned chemists not to run away with the idea that the molecule in the states of vapour and solid is the same thing. H_2O is the lowest expression we can get for water, but there is every reason to believe that as a liquid water is $8H_2O$ or even heavier molecularly than that.

Mr. DAVID HOWARD said that the volatility of metaphosphoric acid was well known commercially, but what application there was of the suggestion which had once been made to use it as a process he did not know, as it had disappeared, no apparatus having been found which would stand it. (Laughter.)

Professor MORLEY, of Ohio University, and Dr. T. E. THORPE also spoke.

LEAD TETRACETATE.

Dr. A. HUTCHINSON, on behalf of himself and Dr. W. Pollard, made a statement regarding their research on lead tetracetate and plumbic salts. When studying the behaviour of red-lead towards acetic acid and glacial acetic acid, they corroborated previous observations that red-lead dissolves completely in the glacial acid, and from the solution they obtained a crystalline salt having the formula $Pb(C_2H_3O_2)_4$.

Mr. A. H. ALLEN next read a paper on the

ESTIMATION OF UREA BY THE HYPOBROMITE METHOD. In this process it is customary to get only about 92 per cent. of the available nitrogen; at least in this country, for German authorities seem to get the full theoretical amount. The author, following up a fact recorded in a paper by Walker and Hamley (*J. C. S.* August, 1895), finds that the addition of a small proportion of potassium cyanate ensures the evolution of the whole of the available nitrogen. He mixes the usual quantity of urea with the soda solution, then the cyanate and the bromine, and effects decomposition. The fact was mentioned that Mr. H. J. H. Fenton states that by using sodium hypochlorite only half the amount of nitrogen is obtained. This does not accord with Mr. Allen's experience, but he had asked Mr. Fenton to show the meeting his experiment, and that, sure enough, proved that twice as much gas came away with hypobromite, and the evolution was very much quicker. It may be, Mr. Fenton suggested, that the hypobromite breaks up the urea molecule straight away while the hypochlorite attacks the amido groups as they are liberated.

A long discussion followed, Messrs. GROVES, THORPE, HEHNER, PAGE, TILDEN and CROSS taking part in it, but the only point which need be recorded here is one mentioned by Mr. Hehner—viz., the reason why Germans get the full yield of nitrogen is because they take care to let the soda act upon the urea solution before adding the bromine.

Other papers followed.

CHEMISTS' ASSISTANTS' ASSOCIATION.

At the meeting of the Association held on Thursday, February 11, Mr. JOSEPH INCE read his paper on

BRITISH AND FOREIGN SYRUPS.

The attendance was small, owing, it is said, to the counter-attraction at Farringdon Avenue. Mr. Ince's paper was somewhat scholastic in character. He commenced with some historical references, and then submitted a list of the seventeen official British syrups, each of which he then proceeded to discuss. We refer briefly to what Mr. Ince said.

Syrupus Simplex, the author described as being exceedingly thick, which, indeed, is true of nearly all the chemical syrups of the *Pharmacopœia*. He quoted the following table compiled by Professor Oldberg, showing the relations of solutions of sugar and water to bulk and specific gravity:

Sugar	Water	Bulk	Sp. Gr.
Oz.	Fl. oz.	Fl. oz.	Result
16	12	2 $\frac{1}{2}$	1.273
16	10	2 $\frac{1}{2}$	1.298
*16	8	1 $\frac{1}{2}$	1.330
14	8	1 $\frac{1}{2}$	1.311
12	8	1 $\frac{1}{2}$	1.290
10	8	1 $\frac{1}{2}$	1.264
8	8	1 $\frac{1}{2}$	1.231

* The third on the list, marked by an asterisk [*], represents syrupus of the British *Pharmacopœia*.

Mr. Ince then referred to what the Paris Codex says about simple syrup; following which were references to the German and United States *Pharmacopœias*, and he mentioned that "Mr. W. A. H. Naylor, in a concluding paper on Constructive Criticism which ended the series so admirably inaugurated in *THE CHEMIST AND DRUGGIST* by P. W. Squire, said, as a general remark, it may be observed that the specific gravities of the syrups of the *Pharmacopœia* are unnece-

sarily high. The density might be reduced without any corresponding disadvantage to 1.220. These illustrations will show that the sp. gr. of 1.330 has not been universally adopted." The author proceeded to speak of the necessity of the Pharmacopœia insisting upon dry and white sugar being used for making syrups.

Syrupus Ferri Iodidi was the next syrup discussed. It was introduced by the late Dr. Anthony Todd Thomson. It was Mr. Peter Squire who originated the coil of iron wire idea for preserving the syrup, he having mentioned it to Dr. Thomson, who made many experiments on the syrup, with the result that before 1840 he succeeded in making the preparation by the plan now adopted by the Pharmacopœia. At first the strength was 3 gr. of anhydrous iodide to the fluid drachm, and gradually, owing to various criticisms, the strength was finally raised to 4.3 gr. in the fluid drachm. Mr. Ince considered the 1885 B.P. formula impossible. The concentrated syrup made by dissolving 28 cz. of sugar in 10 oz. of water results in the formation of a crystallised saccharine paste, and when there is added to this the solution of iodide, the result is a congealed dark-coloured mass, which should be sent out in a wide-mouthed stoppered bottle; but it is questionable if anyone following the Pharmacopœia instructions can possibly obtain 5 oz. of iodide solution, a large portion of the water being boiled off so that the last condition is worse than the first. Mr. Ince mentioned that Mr. Charles Umney had told him "that the sp. gr. of the syrup is 1.400, and not 1.385. After a few days the sides of the bottle are studded with crystals as large as those of sulphate of sodium. The upper part of the liquid is tinged with free iodine." Mr. Umney would amend the formula by making the product weigh, when cold, 2 lbs. 11 $\frac{1}{4}$ oz. Mr. Ince next referred to the United States, German, French, and Austrian formulae for the syrup, and concluded by suggesting the following as a desirable formula for the B.P. to adopt:—

Iron	10
Iodine	20
Sugar	245 (rice 283)
Water	130 fluid

Digest the iodine and iron with 30 of water; shake, and apply heat when—and not before—the first action is over, and the solution is nearly cold. Filter the green ferrous-iodide solution into the hot syrup made by—

Sugar	245
Water	100

The tube of the funnel dipping just below the surface of the syrup.

Syrupus Aurantii was next referred to, also *syrupus aurantii floris* and *syrupus zingiberis*, but without any suggestion.

Syrupus Tolutanus was spoken of at great length in respect to the several national forms. The late Mr. John Savory got the idea for making the syrup from the eleosacchara of Germany, which are simply preparations of sugar impregnated with the aroma of drugs. Mr. Savory's method for tolu syrup was to triturate the balsam with half the sugar, previous to simmering for some time in the prescribed quantity of water, filter when cold, and make into a syrup in the usual manner with the remaining sugar.

Syrupus Limonis.—Mr. Ince stated that the general method adopted in the B.P., and formerly in the U.S.P., is based upon the necessity of coagulating the albumen of the succus by heat. So prone to deterioration is this syrup that there appears to be a general desire to have it replaced officially by a perfectly stable form of syrups acidi citrici, and this has already been done. The application of heat to the succus is an injury, as it alters the aromatic character, and tends to subsequent coloration; but until some other means is found to prevent coagulation it is unavoidable, for the syrup will not keep while the albumen is present. One must object to the B.P. final directions to dissolve the sugar in the filtered liquid by the aid of heat, as it is an error in galenical pharmacy, and carefully avoided by those supplying effervescent syrup beverages; 2 $\frac{1}{2}$ lbs. of refined sugar, added to the pint of strained lemon-juice, is regarded by some as a printer's error. Mr. Ince's own method is as follows:—

Lemon-peel (outer peel cut thin)	2
Sugar (coarse powder)	36
Distilled water	22
Citric acid	3

Intimately mix the sugar and lemon-peel; let stand five days, shaking occasionally. Add then water 19 fl. oz., and warm by means of a water-bath

until dissolved. Dissolve the citric acid in the remainder of the water, cold, and mix with the cold strained syrup. It contains about 5 per cent. of citric acid. Weight, 61 parts.

Incidentally Mr. Ince referred more fully to the power possessed by sugar of developing and retaining volatile principles when brought into direct contact, which is somewhat analogous to *enfleurage* with regard to fats. Vanilla steeped in pure white sugar diffuses its aroma throughout the whole mass; it seems to permeate every grain, and to be an actual combination.

Syrupus Papaveris he considered admirable as prepared by the B.P. method, and he also referred to the manner in which it used to be prepared, and to the tendency, especially on the Continent, to use anodyne syrups, which he freely condemned, quoting a number of old formulae.

Phosphate Syrups were referred to at considerable length, the work of Mr. Thomas Greenish and Mr. Michael Carteigne, done in the fifties and sixties, receiving special mention.

Easton's Syrup, invented by Dr. Easton in 1863, was the last one spoken of. "Dr. Aitken, in his 'Science and Practice of Medicine' (3rd edition, 1864) inserted the previous unpublished formula of his friend:—

[Squire.]

Strychnine in powder	5 gr.
Concentrated phosphoric acid (sp. gr. 1.15) ..	75 minimis
Distilled water	225 "

Dissolve and add—

Phosphate of quinine	120 gr.
----------------------------------	---------

Dissolve by the aid of heat (?) and add syrup of phosphate of iron to 1 pint.*

In regard to crystallisation of quinine in this syrup Mr. Ince said, "I cannot confirm this." He added: "By treating the strychnine according to the method of gently smoothing out the crystalline structure between a fold of paper, the solubility is increased to such an extent that the least heat is required—on an experimental scale, none; the phosphate of quinine requires no additional heat, and the result seems all that can be desired. We need not then dissolve the strychnine and phosphate of quinine in the solution of phosphate of iron, though the method is ingenious; nor need we resort to the addition of hypophosphorous acid, as is sometimes the practice." [This addition is made for the purpose of preserving non-saccharine solutions, and we presume that it is in this that Mr. Ince mentioned it.—ED.]

DISCUSSION.

Mr. WILLIAM ELLIOT remarked that the paper could not fail to be far-reaching in its effect. He thought that the majority of the B.P. syrups were too overloaded with sugar to keep well, and instanced *syr. scillæ*, sp. gr. 1.245, which he considered ought to be made up to weight, but whether with acetum scillæ or acetic acid he was not sure. As to *syr. limonis* he was greatly charmed with Mr. Ince's formula, which he had the pleasure of trying. The syrup was of a definite acid strength, which was a matter of moment to the medical man.

Mr. R. H. JONES said that the paper should prove invaluable to the Pharmacopœia Committee. He was inclined to believe in Mr. F. Brown's theory that the colour which arises in *syr. fer. iod.* is due to a compound of iron rather than to iodine. In the case of *syr. limon.* he favoured a syrup made with citric acid and soluble essence of lemon.

Mr. STROTHER referred to the peculiar names given to French syrups, attributable to the desire to conceal from the patients the real nature of the medicines, as Latin was not used, prescriptions being written in the Vulgate.

Mr. M. TAYLOR, speaking of *syr. croci*, said he had not noticed the fugaciousness of the colour so much as the great tendency it had to become "ropy." He thought *syr. fer. subchlorid.* might as well be deleted.

Mr. R. G. GUYER said that though he had a considerable experience in syrups and syrup-making, the only time he had made *syr. ferri subchlorid.* was in the examination-room.

Mr. INCE, in replying, said *syr. scillæ*, he thought, should be made up with acetum scillæ. He attributed the gelatinisation of syrups to atmospheric conditions. Often a warm moist day would disturb a syrup in this manner. The

* Presumably Mr. Ince quoted this as the original formula, but it is the B.P.C. one.—ED C. & D.

deposit in syr. fer. phosph. co. (referred to by Mr. W. H. Jones) he regarded as due to insufficient washing of the precipitate.

MIDLAND CHEMISTS' ASSISTANTS' ASSOCIATION.

A MUSICAL and social evening was held at Exchange Rooms, Birmingham on February 5. Mr. H. S. Lawton (Vice-President) in the chair. The programme included Mr. Clark (violin), Mr. Williams ('cello), Mr. Rogers (banjo), Mr. Martin (recitation, "Jameson's Ride"). Songs were rendered by Messrs. Casson, Clarke, Cornish, France, Lacey, and Small. Mr. Wheeler presided at the piano. The arrangements were made by Mr. P. C. Arblaster.

BRIGHTON JUNIOR ASSOCIATION OF PHARMACY

THIS Association held a musical and social evening on February 5, Mr. C. G. Yates (ex-President) in the chair. The next "social" will take place on February 19.

Mr. Long's paper on "Trade: An Historical Sketch," which was put down for the meeting on February 12, has been postponed indefinitely.

LINNEAN SOCIETY.

AT last week's meeting, held on Thursday, February 7, Mr. R. MORTON MIDDLETON, F.L.S., read an interesting note on "A Remarkable Use of Ants in Asia Minor." This referred to the treatment of wounds. When people have cut-wounds, especially on the face, the native barber-surgeon takes a live ant in a pair of callipers; after bringing the edges of the wound together he puts the ant on to the wound. Immediately the ant with its mandibles fixes the two edges tightly together. The moment the barber-surgeon perceives this he breaks off the body of the ant, and the mandibles remain closed. The wound rapidly heals up without a scar. A number of ants are used for large wounds. Mr. Middleton stated that this practice is well known, and is followed in Brazil and Old Calabar as well as in Asia Minor. Several of the members who had been abroad confirmed these observations.

LIVERPOOL PHARMACEUTICAL STUDENTS' SOCIETY.

THE usual fortnightly meeting of this Society was held at the University College on February 6, the President, Mr. T. S. Wokes, in the chair.

MISCELLANEOUS COMMUNICATIONS.

MR. J. C. V. LAST exhibited some specimens of seed and fruit of *Ricinus communis* and *Bixa Orellana* (annatto), and also the kernels of *Elaeis guineensis* (the source of palm oil).

MR. FRANK WALKER said that he had an old complaint to make. He had received the following prescription:—

Bismuth. carb.	..	..	..	..	..	3v.
P. rhei	..	..	..	..	..	gr. lxiv.
Sodii bicarb.	..	..	..	..	..	Dvijj.
Tc. nuc. vom.	..	..	..	..	..	5ij.
Aq. menth. pip. ad	..	..	..	..	..	3iv.

5j. pro dosis.

He stated that the prescription had been made up by some chemist before he had received it, but no note had been made as to the quantity of mucilage which had been employed to make a satisfactory preparation, and he thought it was highly desirable that members of the trade should adopt some rule by which uniformity could be ensured. The meeting agreed with the sentiment expressed, and the PRESIDENT hoped that the trade would fall in with the frequently expressed wish.

MR. PEIRSON stated that he had employed with great success the Irish moss mucilage for making an emulsion with cod-liver oil as lately recommended by Mr. Walker. He would like to know whether there was any fear of the mucilage deteriorating.

MR. WALKER said that the addition of a few drops of chloroform was all that was necessary to keep the preparation good for any reasonable length of time.

PAPERS.

MR. H. B. MORGAN then read an amusing paper on "Quacks and Quackery." He took the line of argument that ever since chemists and apothecaries had had an existence there had been quacks. While quackery was not confined to the healing and dispensing arts, but was found in literature, politics, and, in fact, every phase of public life, he thought it was more prevalent among those who assumed a knowledge of drugs and chemicals. The brother of the lecturer imparted an unusual element into the evening's enjoyment by singing two songs bearing on the subject of the paper, the apt allusions in many cases causing great merriment. Mr. Morgan concluded by denouncing many of the so-called patent medicines of to-day, and showed that their value did not consist in the potency of the ingredients—as he gave the analyses of many of the better-known preparations—but in the virtue of advertising.

MR. J. COCKSHOTT also read a short paper on "Aquatic Plants," in the course of which he called attention to the differences between the environments of aerial and aquatic plants. Perhaps the chief point about the latter is that the medium in which they grow provides them with substances in solution which are available as food for the plant, being absorbed by osmosis. An adaptation to this end is seen in the character of the epidermis or epithelium, which is extremely thin. The epithelium is destitute of stomata and hairs, these appendages being useless, if not positively injurious, to aquatic plants. If the major portion of the nourishment of these plants be absorbed directly into the tissues, it follows that there is so much less work thrown upon the roots. Consequently the roots are not highly organised.

One enemy in the environment of aerial plants which has to be overcome is the force of gravity. The character of the cells and the method in which they are disposed form a successful conspiracy against that force. The supporting tissue of aerial plants, composed of cells with thickened walls, has a strong tendency in aquatic plants to become obsolete, because the water is a supporting element. Vessels are few in number and have cellulose walls. This difference clearly is a feature of aquatic plants accommodative to the environment.

Endogenous aquatic plants have usually ribbon-like leaves as in *valisnerias*, occasionally there is distinct ovate lamina, but all the broader leaves are characterised by their extreme thinness. These characters are doubtless special adaptations. The plant is enabled by them to bring a large proportion of its cells in contact with the water, so that the nutritive processes by osmosis are quickened. Similarly, on account of the diminished amount of light penetrating water, it may be necessary for the plant to expose as large a surface as possible to the rays of light. This is most efficiently done by the pectinate leaf.

Mr. Cockshott's remarks were illustrated by some fine specimens from the University herbarium, also some from Mr. J. C. V. Last's collection, and these greatly added to the interest of his remarks which, in the foregoing, are given in abstract.

SOCIETY OF CHEMICAL INDUSTRY.

NOTTINGHAM SECTION.

A MEETING was held at Derby, on February 5, Mr. F. Carulla presiding. Mr. L. ARCHBUTT, F.I.C., read three communications. The first was entitled,

NOTE ON THE IGNITION OF SAWDUST BY NITRIC ACID.

The author gave an account of experiments made to find out what danger attaches to the usual way of packing bottles containing this acid in sawdust, when delivered for transit to the railway company. In each experiment the bottle was removed from the box as if for transit, and the cavity left in the sawdust was filled with acid, thus producing the exact conditions of a complete breakage. In one case ignition occurred readily, the mass of sawdust bursting into flames, and in all cases, even with comparatively weak acids, danger was apparent with such varied kinds of sawdust as those of pitch pine, white deal, elm, and oak, whether in a dry or in a damp state. A discussion followed in the course of which, replying to the Chairman, Mr. Archbutt said that he would recommend the use of kieselguhr, or some similar absorbent

material, for the safe packing of bottles containing dangerous acids.

The next note, Mr. Archbutt explained, had been prepared in consequence of a suggestion of Mr. Thomas Tyrer, and was a description of some experiments the author had conducted to ascertain the influence of atmospheric temperatures on the pressure of

ETHER AND OTHER VOLATILE LIQUIDS IN CLOSED VESSELS.

This paper, which described an ingenious arrangement enabling one to realise with the eyes what goes on inside an iron drum of ether on a hot day, evoked considerable discussion. Replying to a question put by the Chairman regarding an explosion which occurred when using the ether light, which is produced by passing oxygen from a cylinder through this liquid, for the magic-lantern, Professor CLOWES considered that the explosion might certainly be due to ether of sp. gr. .730 having been used, and that one of a lower specific gravity would be less likely to produce an explosive mixture. A further note on Hübl's test completed Mr. Archbutt's contributions.

GLASGOW AND WEST OF SCOTLAND PHARMACEUTICAL ASSOCIATION.

AT the meeting held on Thursday, February 6, Mr. W. L. CURRIE (President) stated, in regard to

SCOTCH JUDGES AND PHARMACY PROSECUTIONS,

that a protest had been prepared for presentation to the Privy Council against the strictures passed upon the Pharmaceutical Society by Scottish judges in certain recent pharmacy prosecutions in Glasgow, Edinburgh and elsewhere, and that the Law Committee would shortly submit the document to the members of the Association for discussion.

PROPRIETARY PREPARATIONS IN THE MEDICAL SERVICE.

The discussion on Mr. Russell's paper on this subject at the last meeting was then resumed.

The PRESIDENT said that chemists as a body should protest against the practice of medical men prescribing proprietary medicines, and should also get the Council of the Pharmaceutical Society to take action, as the customer was derogatory to the standing of the medical profession and against the interests of the chemists.

Mr. ALEXR. LAING said it was wrong for the medical profession to use any medicines that they themselves did not know the constitution of, and it was not right for them, who had the making of formulae in their own hands, not to give formulae for everything they used. Instead of contributing to the progress of the age medical men were moving backwards in prescribing things that had not been sanctioned by the General Medical Council.

Mr. ROBB thought it was an impossibility to have formulæ for everything.

Mr. MCKELLAR traced the practice of prescribing proprietaries to professors of *materia medica*. The Glasgow medical schools had a particularly bad reputation in this respect. A professor would say to his student, "The preparation which Mr. So-and-so makes I can recommend," and the mischief was done.

Mr. BRUCE suggested that a resolution should be sent to the Professors of *Materia Medica* in the Glasgow medical schools pointing out that the students were being trained up in the wrong way.

Mr. MCKAY did not think the Association could teach the professors their business. There was no doubt that there were some proprietary preparations that had sufficient intrinsic value, but druggists' preparations were often inferior in appearance to proprietary preparations, and that was why doctors preferred the latter.

Mr. BLAIR, dispenser to the Western Infirmary, stated that that institution was extremely free from the practice of prescribing proprietaries.

Mr. DUNLOP said the reason why medical men were the victims of manufacturing chemists was in many cases because of their own defective training in pharmacy.

Mr. WATSON said that medical men prescribed proprietary

preparations to save themselves the trouble of calculating doses.

The PRESIDENT, in summing up the discussion, remarked that he felt strongly that the University training, as far as pharmacy was concerned, was a farce. He agreed with Dr. Henderson, assistant to the Professor of *Materia Medica* in Glasgow University, that the proper place for the medical student to obtain his training in pharmacy was behind the counter of a chemist's shop. He hoped this question of proprietary medicines would be taken up elsewhere, and that by approaching the proper quarter they would get the grievance removed.

Mr. RUSSELL having replied, it was agreed to memorialise the Pharmaceutical Council as suggested above.

CYPHER PRESCRIPTIONS.

Mr. GEORGE ROBERTSON, Partick, read a short paper on this subject. How far, he asked, might a chemist venture, legally and conscientiously, in the compounding of a prescription when the ingredients were not written in the manner they ought to be? The author arranged such prescriptions under three heads:—(1) Prescriptions written in cypher—*e.g.*, mist. septem., pulv. tres., &c. (2) Others, such as mist. ammon. carb. co. ʒvj, mist. quinix. co. ʒiv, pil. aperient xij., &c. (3) Such as pil. quin. valer. xij., pil. ergotin. xij., pil. colcc. et hyd. xij., &c. In the case of No. 2, there might in some instances be such preparations in hospital Pharmacopœias. No doubt the correct manner of procedure was, if possible, to try and get the formula, but as that generally met with the reply that it was a private preparation one was apt to think that he too could have a private preparation of that sort, and supply it. There being no proprietary right claimed, and no recognised recipe for such, it certainly appeared that no complaint could be brought against the dispenser for using his own preparation. The third class which he had enumerated were often due pretty much to ignorance or forgetfulness, but in most cases such prescriptions were written for the benefit of the writer, and as that was a growing evil he thought a discussion on the matter could not be out of place.

Mr. Robertson proceeded to enlarge upon these and other points, and at the conclusion of his paper several of the members spoke. It appears from what they said that cypher-prescribing is not the least of the evils which Glasgow chemists have to grapple with; but Mr. BRUCE rather startled the meeting by submitting a long list of formulæ for cypher-prescriptions used in the Victoria Infirmary, which could be had at the infirmary for the asking. After the discussion wore itself out, Mr. LAING submitted a note on "Extract. Ipecac. Acet." which went to show that half the quantity of water prescribed by the B.P. serves to exhaust the root sufficiently.

MANCHESTER PHARMACEUTICAL ASSOCIATION.

The ordinary monthly meeting of this Association was held in the Victoria Hotel on February 12, when Mr. J. H. HOSEASON, assistant lecturer in *materia medica* and pharmacy at the Owens College, Manchester, gave a description of and exhibited a new extractor-apparatus. Mr. G. S. Woolley, the President, occupied the chair. Mr. Hoseason exhibited the apparatus, which has been made by Messrs. Hayward Tyler & Co., engineers, of London, and by means of a diagram explained its method of working. Several questions were asked and satisfactorily answered by the lecturer. A brief conversation followed, in the course of which the speakers expressed their appreciation of the simplicity and utility of the extractor. We hope to illustrate the apparatus next week.

BRADFORD AND DISTRICT CHEMISTS' ASSOCIATION.

At a Council meeting of this Association held on February 5 it was moved that suitable rooms be obtained for the permanent use of the Association, and a committee was selected to make inquiries. It is intended, when the rooms are settled upon, to form a museum and fit up a small laboratory. On Wednesday next, February 19, Mr. Wilson will introduce the subject of "Poisons," to be followed by discussion.



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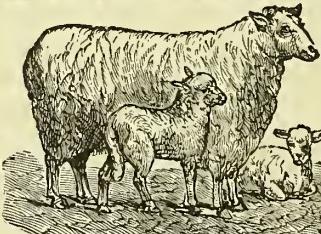
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COMPANY PHARMACY IN IRELAND.

THE contest between the Pharmaceutical Society of Ireland and the firm who, under the provisions of company law, evade what we think were the intentions of Parliament proceeds with varying fortune. The High Court of Ireland, a fortnight ago confirmed the contention of the Society.

that companies, not being persons, could not be pharmaceutical chemists, and could not therefore give the certificate legally required as an antecedent to the examination which must be passed by anyone who desires to practise pharmacy in Ireland. This was a notable victory from a forensic point of view, but it will not have much effect on companies in their trading capacities. It will only hinder them from taking apprentices in future; it will not prevent them from getting qualified assistants. The case we report this week, also from the Irish High Court, was of more substantial importance. It was practically a re-trial of the question which was fought up to the House of Lords under the British Pharmacy Act eighteen years ago—namely, whether a company, not being a person, is prohibited from doing those things which under the Pharmacy Acts of both countries unqualified persons are forbidden to do. There was not sufficient distinction between the phraseology of the two Acts to raise much hope that the Irish Judges would see their way to set aside the ruling of the House of Lords in the analogous English case. An ingenious argument was presented to them, based on the consideration that while the British Act was formed with the intention, in a sense, of limiting the number of persons who practised pharmacy, the Irish measure was expressly intended to add to them, and therefore that while in the former statute, as companies were not explicitly named, they were held to be not excluded, so in the latter Act they should be considered, on the same reasoning, to have been not added. This contention the Judges brushed aside rather contemptuously. A more forcible argument was based on the "Interpretation Act" of 1889. This measure provided, *inter alia*, "that, in the construction of every enactment relating to an offence punishable on indictment or on summary conviction, whether contained in an Act passed before or after the commencement of this Act, the expression 'person' should, unless the contrary intention appears, include a body corporate." As pointed out in our "Pharmacy and Poison Laws," this did not affect the reading of the British Pharmacy Act in relation to companies, as the penalty provided by section 15 of that Act is to be sued for by civil process, and is not one "punishable on indictment or on summary conviction." But the Irish Pharmacy Act is so constructed that the Interpretation Act might be applicable to it. The High Court at Dublin, however, refused to admit the argument founded on this statute, for in their view "the contrary intention" appears in the Pharmacy Act of Ireland. That is to say, they hold that there is internal evidence in the Act itself that the Legislature intended to exclude companies from the operation of its penal clauses. The legal contention established by the final judgment in the case of the Pharmaceutical Society of Great Britain v. the London and Provincial Supply Association (Limited) did not go so far as this by any means. It was only held that the Legislature had omitted to deal with companies at all, and that, that being so, it was not for the Courts to extend the law. It appears from the report of the Council meeting that the Irish Society were intending to carry the case to the highest tribunal. We gather from their counsel's statement, however, that the judgment now reported is final, it being on a "case stated." This is to be regretted, for the argument based on the Interpretation Act seems to be a very forcible one, and worthy of more attention than it received from the Judges of the High Court of Ireland.

THE BURROUGHS MEMORIAL.

THE very interesting ceremony which preceded the regular business of the pharmaceutical evening meeting on Tuesday

last was a simple but at the same time an eloquent manifestation of the cordial and widely spread friendship which the late Silas Mainville Burroughs had won for himself from those with whom he had come into contact during the seventeen years of his business-life in this country. In other circles other memorials of Mr. Burroughs have been raised; this one was the especial tribute of his friends in pharmacy. When he died, just over a year ago, a large number of those who had known him, first perhaps in business relations, and afterwards socially, agreed that they would like in some appropriate way to perpetuate his memory. Mr. Burroughs had no direct connection with the Pharmaceutical Society of Great Britain, but the President of that body, appreciating the exceptional character of the lost friend, and heartily sympathising with the desire to give permanent expression to the esteem felt for him, readily acceded to the wish of the subscribers that he should head this movement, and the Council of the Society have lately accepted the trust by which a Burroughs Memorial Scholarship is to be created. We are inclined to think that the course taken by the subscribers to the fund is as wise a one as could have been adopted. It was clear that if the Council of the Pharmaceutical Society would accept the trust, they, as the only official representatives of British pharmacy, could best guarantee the permanence of the memorial. And the Council, we are convinced, have done both wisely and gracefully in accepting the responsibility offered to them. There was some difference of opinion as to whether the memorial should be of a benevolent or of an educational character; but it appeared that a large majority of the subscribers were in favour of a scholarship. The Burroughs Scholarship is likely, we understand, to be, at first at all events, a gift of some 25*l.* a year to a suitable pharmacist who, having fully qualified, shall be willing to spend twelve months in the Research Laboratory. There are, we are informed, always a sufficient supply of such men to provide the necessary field for competition or selection. One such worthy student being helped every year, it cannot be doubted that, when all Mr. Burroughs's friends have followed him to the grave, men will live who will both benefit themselves and do honour to his name through this memorial.

THE COD-LIVER OIL MARKET.

LOOKING back over quite a number of Editorial Comments on the position of the cod-liver oil market which have appeared in this journal during the past five or six years, we feel that there has not been a season recently in which the outward signs of the market were so generally favourable to a strong upward movement. The telegram from our Norway correspondent, which we publish on another page of this issue, and that which appeared last week, show that, so far, the fishing has been almost a complete failure. Mail-reports from other sources confirm this news, and the official appointed by the Norwegian Government to collect statistics of the fishing while the catch is proceeding reports, on February 8, that from the beginning of the season only 160,000 cod have been caught in the Lofoten district, yielding 16 barrels of oil. The livers are said to be unusually small and deficient in oil, and, in short, no such failure has been known in the Lofoten for many years. Further details of the catch will be found in our Trade Report.

We have always, in commenting upon the prospects of the cod-liver oil market, urged the necessity of receiving sensational reports from Norway with circumspection, and of keeping in sight the fact that, as a rule, a good deal of old oil remains in the hands of speculators and dealers at

the opening of the season. "Stormy weather," "lean fish," and such-like cards, if well played, have often enabled holders to clear off their stock advantageously at the beginning of the season, and purchasers have found again and again, to their cost, the second half of the fishing season make up in abundance of yield for the scarcity of the opening weeks.

It may be that such a disillusion is again in store this year for those who are buying at the current high quotations, but it must be admitted that appearances point the other way. In the first place, the season is now well advanced, and a change, if at all, must come soon to be of any use. Secondly, there is no reason to doubt that the supply of medicinal oil from previous years, usually abundant, is exceptionally small on the present occasion. This is chiefly due to the fact that the 1895 fishing was partly a failure. On May 18 of last year, when the season was practically at an end, the total production of unrefined oil in Norway (including Finmarken), amounted to 12,680 25-gallon barrels, against 18,500 barrels and 26,813 barrels on the corresponding dates of 1894 and 1893 respectively. The comparatively short crop of 1894 was the first failure since the disastrous season of 1883, and it had been preceded by seven fat years, during which the price of cod-liver oil gradually fell to an unremunerative figure. Last year, in the first excitement caused by the bad fishing-reports, the price of best non-congealing oil was driven up to 200s. per barrel, nominally, and although, with the arrival of the summer season, the quotations fell back to some extent, they have remained much above the average ever since, and opened, this year, at an unusually high figure.

We are now face to face with the fact that the leading importers of cod-liver oil have scarcely anything to offer for immediate delivery. A few casks of one of the best-known brands are said to have changed hands this week at 195s. per barrel, "c.i.f." terms, which is equal to more than 8s. per gallon in London, but much higher rates are now asked, and it may almost be said that for the present the quotations are nominal. Importers and dealers, in fact, are already discussing the possibility of a temporary return to the 20/-per-barrel rates of 1883, but that seems to be taking time by the forelock rather too vigorously. We understand, however, that several wholesale houses have instructed their travellers to be extremely cautious in offering cod-liver oil, and it appears to be the case that, so far, in respect to quality, this season's yield falls markedly below that of 1895.

Buyers can draw what conclusions they like from these facts, but they should not forget that the weather in the Norwegian fishing districts is as changeable as in this country, and that the northernmost fishing-grounds, to which the fleet will presently repair, may yet, in part, make good the unexampled scarcity of the yield in the southern districts. Also that the average quality of Newfoundland cod-liver oil has been very much improved of late years, and that increased importations of that oil may serve to prevent the market from running altogether beyond control, although, of course, even the best Newfoundland oil cannot replace the higher grades of the Norwegian product.

PHOTOGRAPHIC IGNORANCE.

We observe that some photographic papers are under the impression that the Pharmaceutical Society of Great Britain has extended its operations to Belfast. Perhaps they will note for the future that in regard to pharmacy Ireland has home rule and Pharmacy Acts of her own. We always consider it advisable for people who wish Acts of Parliament to be annulled to first make themselves acquainted with the Acts, and photographic journals have yet to do that.

PROPRIETARIES.

The members of the Glasgow Pharmaceutical Association are either great wags or incurably dull. They have resolved to appeal to the Pharmaceutical Council to do something to put down the prescribing of proprietary medicines. It does not appear to have struck our Glasgow friends that the more prominent men on the Council have their own or their firm's names attached to medicines for which the makers claim proprietary rights and special virtues. It is, therefore, scarcely fair to ask them to do something to prejudice their competitors' interests, if not their own.

COMPANY-LAW REFORM.

The subject of the reform of the law relating to companies is mentioned in the Queen's Speech, and we may therefore expect that a Bill on the lines drafted by the Board of Trade Committee will soon be submitted to Parliament. This is likely to be the most important Bill of the Session, from a pharmaceutical point of view. Mr. Justice Holmes, in the Irish High Court, says it would be as easy to disestablish the English Church as to stop company-trading in pharmacy in England. The difficulties may be considerable, but our cause is overwhelmingly strong, and chemists are thoroughly united on this question. It is the first, and it may be the last, opportunity that may occur for securing the condition that we claim was intended to be established by the Pharmacy Act—namely, that only qualified persons should be legally permitted to keep open shops as chemists and druggists and for the sale of poisons.

EXPERT EVIDENCE.

A judge once classified evidence that had come before him as (1) good evidence, (2) perjured evidence, and (3) expert evidence. Dr. A. P. Luff did not help the reputation of experts by the evidence he gave at the Bloomsbury County Court, in the case which we reported last week under the title of "Analysts' Fees." Dr. Luff appeared on that occasion as an expert on experts, in support of a claim brought by Professor Attfield. Asked by the Judge, Why should a retaining-fee be given to an analyst? Dr. Luff said, "I take it, to prevent the other side securing the analyst's services." No one has ever before, so far as we know, uttered such a libel on experts. An expert gives his evidence on oath, and is supposed to enlighten the court, and thus assist justice, on the subject which he has specially studied. And yet, according to Dr. Luff, he may be hired for either side—first come, first served. This opinion from an authority should be noted, and borne in mind by those who may become the victims of expert evidence.

"TRUTH" ON "THE CHEMIST AND DRUGGIST."

Truth is still after us. The charge now is that we libelled a certain individual Army compounder in order to justify "the jealousy in the drug-trade at the employment of Army compounders at hospitals and public dispensaries." "The chemists," says our contemporary, "naturally resent anyone being admitted to dispensing-work who has not passed their trade-examinations, but I am told—and it seems not at all unlikely—that the average ex-Army compounder is a better man in a dispensary than the average chemist. The latter may have merely passed an examination, and done a little salesman's work in a shop; the former has almost invariably acquired some practical elementary knowledge of medicine and surgery by hospital experience. Under these circumstances the order of the Local Government Board of which the organ of the drug-trade fell foul seems to have been amply justified." We quote this passage because we do not know of any more effective way of replying to the attack made upon us. We may be biased, but we find it difficult to believe that *Truth's* readers can accept such stuff as this as argument or

common sense or whatever the writer means it for. The examination for chemists is one that has been developed after fifty years of experience, has been formally approved of by the Legislature, is supervised by the Privy Council, and has been commended by scores of medical authorities. And here comes an anonymous scribe who evidently has no idea of its character, but who seriously avows his opinion that the training of an Army compounder is calculated to provide a better man for a dispensary. The gentleman's opinion may be interesting as a curiosity, but why even he should put it forward as of any value passes our comprehension.

A SAFFRON SUBSTITUTE.

The crocus-crop of Gatinais has been badly affected this year by an attack of a fungus (*Rhizoctonia violacea*), which is one of the reasons for the high price which saffron has now reached. Writing to *Nouveaux Remèdes* in regard to the matter, Professor F. Heim, of Paris, suggests the cultivation of *Tritonia aurea*, Poppe, an iridaceous plant the stigmata of which contain the same colouring principles as saffron. He has examined the proposed saffron substitute, and finds that the crocin, crocose (a sugar), and crocetine are identical with those of saffron, and he has also obtained from the tritonia stigmata a substance analogous to the colourless crystalline and bitter glucoside of saffron—picrocroceine. Professor Heim is convinced from all his observations that the culture of *Tritonia aurea* would be successful, as it is not attacked by the fungus. The plant is a native of Central Africa and the tropics. It is hardy, and would stand the French climate well.

LONDON UNIVERSITY CHEMISTRY.

The *Lancet* takes up the cudgels for medical students in regard to the chemistry questions set at the last Intermediate examination for M.B. London, which were as follows:—(1) What experiments would you make in order to prove that glycocine contains one and urea two amido groups? What is the effect of hot aqueous potash on each of these compounds? (2) What are the chief constituents of ordinary petroleum oil? How would you ascertain whether it contained olefine hydrocarbons? (3) How would you detect and estimate the nitrogen in a specimen of leucine? Describe an alternative method of estimation and calculate the percentage of nitrogen in this substance. (4) What means would you adopt in order to separate in a pure state each of the constituents of a mixture of alcohol, aldehyde, and ether? Describe the characteristic properties of each of these substances. (5) Describe precisely how you prepared pure aniline from benzene as a starting-point. What would be the best method (other than reduction) of separating pure aniline from a mixture of it with nitrobenzene? (6) Explain fully the chemical changes involved in the principal tests for the following substances: Formic acid, cane sugar, benzoic acid, alcohol, and salicylic acid. The *Lancet* sneers at the examiners who set these questions (Professors W. R. Dunstan and Herbert MacLeod, we understand), remarking that "it is strange that a paper full of technical details of work should have passed the censorship of the Senate. . . . In the first question it is assumed that the nature of the constitution and the molecular weight of glycocine are quite settled, but experts in organic chemistry tell us this is not the case." It should, however, be noted that the questions as a whole are quite consistent with the syllabus; a real ground for complaint is that the London University medical degrees are rapidly losing their reputation as a criterion of practical abilities. The examinations, as a whole, are so intensely theoretical, so favourable to cram, that it is impossible for any but the exceptional y gifted to prepare for them, and at the same time to get that clinical training which is essential to success in medicine.

Business Changes.

Notices of changes in the retail-trade, and opening of new businesses, are inserted in this section, free of charge, if properly authenticated.

MR. C. H. BOOTH has purchased the business of Mr. J. Edmunds, at 394 King's Road, Chelsea, S.W.

MR. C. N. COTES, from Savory & Moore's, has purchased the business of Mr. Sexton, at 94 Richmond Road, Kingston-on-Thames.

MR. H. E. FIRMIN, chemist and dentist, of Brighton, has purchased the business of Mr. J. B. Burrell at Selhurst Road, Croydon.

MR. STEWART REID, chemist, late manager to Mr. Jackson, Acton, is opening a pharmacy in a few days at 6 Park Road, Acton, W.

MR. W. H. FOWLER, late of Canterbury, has purchased the business of Mr. J. Keeble, Station Road, Redhill, and late of Clevedon, Somerset.

MESSRS. VERNON & CO., chemists, of Victoria Pavement Surbiton, Surrey, are opening a branch pharmacy at Barmouth Road, Wandsworth, S.W.

MR. JAMES SMART, formerly of South Africa, has bought a business at 126 (not at 31) High Street, Clapham. Our note last week stated the latter number.

MR. E. J. F. GARNER, of 225 Great Cheetham Street, Higher Broughton, Manchester, has transferred his business to Mr. Joseph Price, late with Mr. J. Botham.

MESSRS. WESTON & CO. (LIMITED), cash chemists, have reopened the premises at 46 St Peter's Street, Derby, under the management of Mr. C. T. Weston, late manager to Messrs. Bardill & Co., who formerly held the business.

MESSRS. HENRY HODDER & CO. (LIMITED), chemists, of Broad Street, Bristol, have recently opened, at 79 East Street, Bedminster, the first of a series of branches they contemplate. The establishment is connected with the central store by private telephone.

New Books.

Bocquillon-Limousin, H. *Formulaire des Médicaments Nouveaux pour 1896*. Seventh edition. Sm. 8vo. Pp. 366. Cloth cover. 3f. (J. B. Baillière & Fils, Paris.)

Hansen, E. C. *Practical Studies in Fermentation: Being Contributions to the Life-history of Micro-organisms*. Translated by Alex. K. Miller and revised by the author. 8vo. Pp. 292. 12s. 6d. (Spon.)

Hornby, J. *A Text-book of Gas-manufacture for Students*. Crown 8vo. Pp. 276. 5s. (Technological Handbooks.) (Bell.)

Johnson, Sir G. *History of the Cholera Controversy, with Directions for the Treatment of the Disease*. 8vo. 3s. (Churchill.)

Redwood, Boyerton, assisted by Geo. T. Holloway and others. *Petroleum: A treatise on the geographical distribution and geological occurrence of petroleum and natural gas; the physical and chemical properties, production and refining of petroleum and ozokerite; the characters and uses, testing, transport, and storage of petroleum products, and the legislative enactments relating thereto; together with a description of the shale oil and allied industries*. Two vols. Royal 8vo. Cloth. Pp. xxvi. and 900. 45s. With maps and other illustrations. (Chas. Griffin & Co., Lim.)

Roscoe H. E., and Harden, A. *A New View of the Origin of Dalton's Atomic Theory: A Contribution to Chemical History, together with Letters and Documents concerning the Life and Labours of John Dalton, now for the first time published from Manuscript in the possession of the Literary and Philosophical Society of Manchester*. 8vo. Pp. 202. 6s. net. (Macmillan.)

Routledge, R. *Discoveries and Inventions of the Nineteenth Century*. 11th edit., revised and partly re-written, with Additions, containing 450 Illustrations. 8vo. Pp. 736. 7s. 6d. (Routledge.)

Shears, James C., A.M.I.C.E. *Machinery and Apparatus for Manufacturing-chemists*. 8vo. Pp. 93. With illustrations. 3s. 6d. (Marlborough & Co., 51 Old Bailey, E.C.)

Startin, James. *A Pharmacopæia for Diseases of the Skin*. 4th edit. 32mo. Pp. 53. Cloth. 2s. (Wright, Bristol.)

Taylor, A. J. W. *Refrigerating and Ice-making Machinery: A Descriptive Treatise for the Use of Persons Employing Refrigerating and Ice-making Installations, and others*. Cr. 8vo. Pp. 296. 7s. 6d. (Lockwood.)

Legal Reports.

COMPANY PHARMACY IN IRELAND.

IN the Queen's Bench Division of the High Court, Dublin, on February 10 (the Judges being Mr. Justice O'Brien, Mr. Justice Johnson, Mr. Justice Holmes, and Mr. Justice Gibson), the case came on for argument of the Pharmaceutical Society of Ireland, appellants, and Alexander Boyd & Co. (Limited), of Castle Buildings, Lisburn, respondents. The matter came before the Court on a case stated at the instance of the Society by the Justices at Lismore Petty Sessions. At a session held on September 13 last, the defendants appeared to answer a summons at the suit of the Society, which charged that the defendants, on April 16, 1895, at Lisburn, kept open shop for compounding medical prescriptions, and did compound a medical prescription for Andrew Downey, of Sandy Row, Belfast, at Castle Buildings, Lisburn, they not being qualified in that behalf under the Pharmacy Act (Ireland), 1875. At the hearing it was proved that on the date named Andrew Downey, the complainants' inspector, gave a medical prescription from Dr. O'Connell to the gentleman in charge of the defendants' medical department, and received from him a bottle which was produced, and also the prescription. On the window-blinds of the shop were the words "Medical Hall." There was another part of the shop for the sale of groceries. Dr. O'Connell, who gave the prescription, was a duly-qualified medical man. It was proved that the defendants are a limited company registered under the Companies Acts, and that their medical department was conducted by a duly-registered and qualified pharmaceutical chemist. On the part of the defendants it was contended that a limited company was not a "person" within the meaning of the Pharmacy Act and that it did not apply to them. The Justices dismissed the summons; but they stated the case at the request of the advisers of the Society.

Messrs. John Gordon, Q.C., James Campbell, Q.C., and Joseph Day (instructed by Messrs. Casey & Clay) appeared for the Pharmaceutical Society; and Messrs. Roman, Q.C., Meredith, Q.C., and R. C. K. Wilson (instructed by Mr. Frederick W. Charley, of Lisburn) for the respondents, Alexander Boyd & Co. (Limited).

Mr. Day, on behalf of the appellants, said the summons was brought under section 30 of the Pharmacy Act (Ireland), 1875. Prior to that date no person in Ireland had a right to compound medical prescriptions who was not a licentiate of the Apothecaries' Hall, which was established under a statute of the Irish Parliament passed in 1791. The Act of 1875 was passed, as its preamble showed, to extend the number of persons who should be entitled to compound medical prescriptions, the statement in the preamble being that "a great deficiency existed throughout Ireland of establishments and shops for the sale of medicines and compounding of prescriptions." Under that Act of 1875 the Irish Pharmaceutical Society was established. It was not possible to contend that in any of the sections of that Act, which were "enabling" sections, the word "person" included a corporation, because it was manifest that a corporation could not be examined or registered as a pharmaceutical chemist. But inasmuch as section 30 of that Act contained a general prohibition making it unlawful for "any person" to do certain acts, and addressed to everyone, the word "person" so used was wide enough to include corporations. The prohibition was not addressed to individuals only, but to all persons. It was necessary, he admitted, to show that the case of the Pharmaceutical Society of England v. The London Supply Association reported in 4th Queen's Bench Division, and which was a decision of the House of Lords, did not govern the present case; and he would point out, first, that the offences dealt with in that case and in the present case were not the same; next, that the Acts of Parliament were dissimilar, the House of Lords case being a decision under the English Pharmacy Act; and, thirdly, that since that decision was given the Interpretation Act of 1890 had altered the construction of the word "person" in section 30 of the Irish Act. Section 2 of the Interpretation Act enacted that "in the construction of every enactment relating to an offence punishable by indictment, or a

summary conviction, whether contained in an Act passed before or after or after the commencement of that (the Interpretation) Act, the expression 'person' shall, unless the contrary intention appears, include a body corporate." The real ground of decision in the House of Lords' case was that in that particular case it was not necessary to make the word "person" include a corporation; and in the present case he submitted that the onus lay upon the other side of showing that "person" did not include corporations.

Mr. Justice O'Brien: Can you put your hand on any decision, before the House of Lords' case, in which the case arose upon a criminal proceeding?

Mr. Day: No.

Mr. Gordon, Q.C.: The Act 7 and 8 George IV., c. 28, provided in section 14 that "person" should include corporations in criminal matters.

Mr. Justice O'Brien: Not in all cases, for a corporation could not commit高明. (Laughter.)

Mr. Justice Holmes: I do not know that any law existed, prior to the passing of this Act, that prevented a corporation from compounding medical prescriptions. It is difficult to construe the Irish Act of 1791, but it is clear that its penalty sections applied to individuals as distinguished from corporations. Section 22 says: "Be it further enacted that from and after the 24th June, 1791, no person shall open shop or act in the art and mystery of an apothecary within the kingdom of Ireland unless such person shall have been examined as to his qualifications." Is not it perfectly clear that that does not apply to corporations?

Mr. Day contended that the word "person" in that section was prohibitory, and did apply to corporations. The effect of that Act was that, previous to 1875, no person but a licentiate apothecary could compound medical prescriptions. The reasons contained in the House of Lords' case for holding that "person" did not include corporations were not applicable here.

Mr. Justice Holmes remarked that it had generally happened that the English legislation on particular subjects had preceded the Irish; and the sections of the subsequent Irish Acts, although not always identical with, were generally substantially the same as those of the English; and that Court, in construing the former, had been guided by the construction put on the latter. What was intended in 1875 was to make the law in Ireland analogous to that in England.

Mr. Day said the Irish and the English Pharmacy Acts were not promoted for identically the same purposes. The Irish Act was passed to increase the number of persons qualified to compound. The English Act declared that it was expedient for the safety of the public that persons who kept open shop for retailing, dispensing, and compounding, and chemists and druggists, should be duly examined in order to show that they possessed competent knowledge. The Irish Act removed a prohibition.

Mr. Justice Holmes: And the way they removed it was by saying, "We shall have the same law in Ireland as in England."

Mr. Justice O'Brien: Have any prosecutions been instituted in England founded on any supposed charge in the law made by the Interpretation Act?

Mr. Day: No.

Mr. Justice Holmes: I understand that now in every town in England there are these companies carrying on business, and it would be about as easy to get an Act disestablishing the English Church as to get an Act to prevent them from doing so.

Mr. Day argued that the decision in the House of Lords case did not apply to the Irish statute, because the reasons which enabled the Lords to arrive at that decision were wanting in the case now before the Court. There was nothing in the Irish Act (1875) to show that it was the intention of the Legislature to exclude companies from its operation; and the earlier sections could not be resorted to as to that, because they were totally different from section 30, which was prohibitory. Therefore he submitted that the Magistrates were wrong in holding that the defendants were within their rights.

Mr. Wilson was heard in support of the decision of the Magistrates, and submitted that the sections of the English Act on which the decision in the House of Lords case was based were identical with the section of the Irish Act under

which his clients were prosecuted. The only sections in the whole code in which companies were contemplated were section 17 of the English Act and section 2 of the Irish Poisons Act of 1870, both of which made it unlawful to sell poisons in certain ways. If the Legislature had desired to prevent companies from compounding prescriptions, they would have said so in express terms; but they had not done so. The House of Lords case was a decision that the "contrary intention" required by the Interpretation Act did appear in this pharmacy code. The sections in the Irish Act relating to examination, apprenticeship, certificates, &c.—with which a company clearly could not conform—were evidence of that contrary intention. As to the general policy involved in the present question, these limited companies had been carrying on business for twenty years and—as was said by one of the Lords—carrying it on for the public benefit.

Mr. Justice Holmes: And not to the public injury, because, although mistakes are occasionally made, they are not confined to these joint-stock company establishments at all.

Mr. Wilson submitted that, so far as the public interest was concerned, the matter was on the same footing in Ireland as in England. He understood that there were large companies in Cork, like that of Grattan & Co. in Belfast; and in Dublin there was the house of Hamilton & Long, and also the Army and Navy Stores.

Mr. Justice O'Brien: Perhaps they have qualified assistants?

Mr. Ronan, Q.C.: It has been proved that we have.

Mr. Justice Holmes: Do Grattan & Co. carry on any business but the one?

Mr. Wilson: Yes, that of soda-water and mineral-water manufacturers; but that, I understand, is carried on in an entirely separate building. The preambles of the Acts must be put out of the question, because, so far as the general policy of the matter was concerned, it was beyond question. The decision of the House of Lords was one of the highest authority, and he was sure the Court would be extremely reluctant to say that it was necessary that the prohibition in the 30th section should be extended to companies. As to the section of the Interpretation Act, he had not found any authority bearing upon the question, but he submitted that the section was applicable to enactments relating to such offences as larceny, mutiny; and that the circumstance that the penalty was recoverable in one way under the English Act and in another under the Irish Act did not render the latter so different from the former as to bring it under the section of the Interpretation Act. At the passing of the Irish Pharmacy Act the intention of the Legislature was to harmonise the pharmacy legislation of the two countries; and it was absurd to say that they meant to undo that by slipping a clause into the Interpretation Act. It was to be assumed that at the time that Act was passed they had in their minds the decision of the House of Lords, and, that being so, if they meant to include companies in the enactments, would it not have been easy for them to make that clear? If they meant to make a thing unlawful in Ireland that was perfectly lawful in England, would they not have said so?

Mr. Justice O'Brien remarked that the Court had held in another case that the Interpretation Act could not alter an established code of law.

Mr. Wilson cited the case of the Pharmaceutical Society of England v. the Leith Dépôt (Limited), heard in the Scotch Court of Justiciary, Edinburgh, in which it was held that the shareholders, none of whom were duly qualified chemists and druggists, were not liable individually to be prosecuted because the company had taken the name of "chemists and druggists"; and in conclusion repeated that the "contrary intention" appeared on the face of the Pharmacy Acts of both countries.

Mr. Ronan, Q.C., followed on the same side, and pointed out that section 30, under which the summons here was brought, was a combination of sections 1 and 15 of the English Act. If the contention on the other side as to the effect of the section of the Interpretation Act were right, a fantastical result would ensue. That section did not apply to the English Act because the penalties under it were not recovered on summary conviction; but the Court was asked to hold that although for ten years the law in the two countries had been identical, the House of Lords having put

a construction on the English Act that applied to the Irish, the Legislature intended by a chance clause in the Interpretation Act to make the law different in the two countries and to sweep away a large number of business establishments in one of them.

Mr. Justice O'Brien: Does it occur to you that the words "punishable by indictment or summary conviction" necessarily include proceedings for a penalty?

Mr. Ronan, Q.C., said the contention of his learned friends was that a distinction between a penalty recoverable at petty sessions and a penalty recovered by plaint was to lead to a departure from the old scheme of the Legislature, and, by an infirmity of legislation, to make a vast number of establishments in Ireland, such as the Army and Navy Stores in Dublin, illegal, while it would remain lawful to carry them on in England. That was a startling and extraordinary view.

Mr. Justice Holmes remarked that in Scotland the penalty was recovered by an action before the Sheriff.

Mr. Ronan, Q.C., read passages from the judgments of Lord Selborne and Lord Blackburn in the House of Lords case, and submitted that section 30 of the Irish Act, being penal, should be strictly construed. The present was one of the gravest cases that had arisen for a long time. A decision in favour of the appellants would involve the shutting-up of all those large establishments that had been referred to.

Mr. Justice Holmes: The gravest thing is why they wake up in 1895, when those establishments had been in existence for so long a time.

Mr. Ronan, Q.C., said that in 1895, when the present proceedings were commenced, the Honorary Treasurer of the Society was Mr. Edward Hodgson, who was himself a member of a limited liability company carrying on business in Dublin, but who had since retired from the treasurership. Counsel, in conclusion, submitted that it would be monstrous, by a fantastic application of the Interpretation Act, to render unlawful all those establishments in which enormous sums of money had been invested on the faith of a decision come to in 1880.

Mr. Gordon, Q.C., replied on the part of the Society, and said that if the decision of the Court should be against them in the present case, there would be twenty or thirty little limited companies springing up in different places before three months. Much harm might not be done in Dublin, but there were ways by which persons who were not qualified could get themselves made into companies elsewhere. It had been asked why the Society lay over so long about this matter. Of course they had the English decision before them. They did not feel their position to be a very strong one until after the Act of 1889 was passed, and since then they had had a great deal of correspondence with different companies, into which it was not necessary to enter; but if the matter were inquired into, their Lordships would see that they had had good grounds for not taking earlier proceedings.

Mr. Justice Johnson: They have come here on what they consider to be the true construction of the Act.

Mr. Gordon, Q.C., said the question as to whether the summons in the present case was a criminal proceeding or not was not in doubt. Lord Chief Justice Cockburn, in the hearing of the Supply Company case, pointed out that it was not a criminal proceeding, and Lord Selborne drew the same distinction, founded on the way in which the penalty was recovered. For the Court in the present case to take a different view of the word "person" from that which was taken in the House of Lords case would be in no way to conflict with the latter case, which went on a different matter altogether. Before the passing of the Interpretation Act of 1889 matters would have been different in Ireland from what they were in England, because the 7th and 8th William IV.—although it was afterwards repealed by the Interpretation Act—would have been then applicable in Ireland. In England the proceeding was of a civil character; in the present case the proceeding was a purely criminal one, and it was to be noted that—being a "case stated"—it could go no farther than the court in which they were at present standing. Was there not, therefore, an enormous difference between the legislations for the two countries? The civil proceeding in England could go on to the House of Lords,

but the "case stated" had to be finally determined in that Court. That did away with the argument that they must have the same law for the two countries.

Mr. Justice Holmes: Are we to disregard the decision of the House of Lords because this case cannot be brought there?

Mr. Gordon, Q.C.: No one argues that. All I say is that it destroys the weight of the argument that we are to decide this case because in England a certain decision was given from which certain consequences follow.

Mr. Justice Holmes: The way in which the argument is put is that if on a certain section of an Act of Parliament a construction has been placed by the House of Lords, the highest tribunal for England and Ireland, and if you have a section of another Act of Parliament which cannot be distinguished from it on any good grounds, we are bound by the construction in the former case. I don't think you can distinguish the cases by any mode of recovering the penalty and differences of proceeding for that purpose.

Mr. Justice O'Brien: Supposing the Interpretation Act to be out of the question, is there any difference between the two cases? Would any person of common sense, taking up the sections of the English Act which correspond to section 30 of the Irish Act, say that one meant individual men and the other a corporation?

Mr. Gordon, Q.C., said there was nothing in the English case to make it necessary to extend the word "person" to corporations. The converse of that was the position here; and they had also the Interpretation Act. Lord Selborne's judgment amounted to this—that the word "person" ought to include corporations, but that he had, in the case before him, to see whether it did or not; and if he made that assumption, and if the section of the Irish Act was presumably inclusive of corporations, "unless the contrary intention appeared," could the defendants say that they were not liable merely because they could not do certain acts? If a corporation attempted to do things and acts that they should not do, so much the worse for them. The present case was not to be decided by construing section 30 according to a decision of the House of Lords after 1875. They must read in the section of the Interpretation Act. Were corporations to be allowed to do the things prohibited by section 30 because they could not comply with the provisions of other sections in the Act? That was no answer to a charge of violating section 30. As to section 17 of the English Act, if their Lordships looked at section 2 of the Irish Sale of Poisons Act, they would see that it began almost word for word in the same way as section 17; and it said that "for the purposes of this section the person on whose behalf any sale is made by any apprentice or servant shall be deemed to be the seller." Lord Selborne, in his judgment, said that if the thing was made universally unlawful "person" must include "corporation" if a sale was made by any servant on behalf of a corporation. Section 17 of the Irish Pharmacy Amendment Act of 1890 said that "every person or persons lawfully keeping open shop for selling and retailing poisons and dispensing and compounding medical prescriptions shall personally manage and conduct such shop, and the retailing, dispensing and compounding of poisons and medical prescriptions therein, or shall employ for the purposes aforesaid as assistant or manager in such shop a duly qualified pharmaceutical chemist or licentiate apothecary, and such person or persons lawfully keeping open shop as aforesaid shall, for the purposes of this Act and of the principal Act, be held to be the retailer and compounder of poisons or medical prescriptions as aforesaid therein." Read the last provision into section 30 of the Act of 1875, and the result would be that the "persons keeping open shop"—that is to say the company—would become the retailers and compounders. It was said that the actual seller or compounder could be got at; but if those two sections were read together the only "person" they could get at was the company. And if the company were not responsible what provision was there for the safety of the public? It would be of no use to have a qualified man, because he could not be fined or got at. That provision should be carefully considered. No such provision existed in England at all. The Irish Apothecaries' Act of 1791 was restrictive. The English Apothecaries' Act of 1815 was entirely different in scope and contained no prohibition from beginning to end against keeping

open shop. No doubt section 14 said it should not be lawful for any except persons already in practice as such to practise as apothecaries.

Mr. Justice Holmes: It is shown by books of authority that the word "apothecary" had a wholly different meaning in Ireland from what it had in England. The English apothecary was simply a man who sold, compounded, or mixed medicines, and practised no art or mystery beyond that. In Ireland the apothecary was at liberty to practise medicine and did so, and was registered. However, I don't think this affects the argument at all.

Mr. Gordon, Q.C., said he asked the Court to infer from the two statutes that, whilst in England the Legislature regarded every man as having a right to keep open shop provided he was properly qualified, in Ireland no man save those to whom the right was given by the Act of 1791 had that right. These were not merely verbal distinctions. In the one case they had a civil, in the other a criminal, proceeding; in the one case they had restrictive legislation, in the other enabling legislation; and he submitted that the Court was not bound by a decision of the House of Lords on an Act which, although it had words like those of the Irish Act, dealt with circumstances of a very different kind.

Mr. Justice O'Brien said that as the members of the Court were entirely agreed it was not necessary to postpone their decision. He had not at first had an opportunity of reading section 30 of the Irish Act, under which the present question arose, and sections 1 and 15 of the English Act—which appeared to have been compounded and consolidated into one section in section 30—but in the course of the argument he had read those sections, and it did not appear possible to entertain any real doubt as to their meaning. Whatever the views of the legislature may have been, and whatever differences might have existed as to the remedies for the states of things in England and Ireland, and as to the supposed effect and nature and extent of those remedies, it appeared to him that all argument of that kind yielded to the predominant argument that the words of the statutes admitted of no ambiguity whatever, and must be put down as having the same subject matter, and to receive the same interpretation. He did not see the force of the distinction that Mr. Gordon had drawn between restrictive legislation and enabling legislation. Whether there was a class of persons carrying on this trade of compounding medicines in England, whom it was an object of the Legislature to invest with certain qualifications in future, and to declare that they should possess those qualifications—or whether there was a deficiency in Ireland of persons carrying on that trade, and that it was intended to create a larger class than existed under the restrictive Act of 1791—he did not see that it could make any difference as to the construction of an Act of Parliament. They must always consider the antecedent state of the law in order to see what mischief was provided against; but they must not go further into the antecedent law than the terms of the Act carried them. Looking at the Act of Parliament, he could see most plainly that if it had been in the contemplation of the Legislature, before the Interpretation Act of 1889 was passed, to subject corporations to a penalty for the compounding of medicines and the selling of poisons, that object was capable of being attained, and must have been attained, by the use of very different language from that which was used. The Legislature would in that case have said that "from and after the passing of the Act no medicine shall be compounded or poison sold except by a qualified pharmaceutical chemist registered as such." But that was not what it said. It said, "No person shall hereafter compound medicines, &c., unless he shall be a qualified pharmaceutical chemist and registered pharmaceutical chemist," assuming that the person to whom the penalty was applied was a person capable of qualifying himself and of obtaining the education and qualification under the Act of Parliament. A corporation could not be meant by that description. It was absolutely certain in his mind that no person reading the Act could arrive at any other conclusion than that a corporation never was intended to be referred to in it at all. It appeared to him that the "contrary intention" stated in the Interpretation Act of 1889 distinctly appeared in the words and terms of the Statute itself. For that reason more than any other, and altering the opinion that he was at first led to form, it ap-

peared to be quite plain that no other decision was possible to be arrived at by the House of Lords, and that it did not need some of the arguments that were referred to as the basis of Lord Selborne's judgment in order to lead to the conclusion at which he arrived. The true expression of the rule was contained in the words of Lord Watson, who said that, whatever the intention of the Legislature was, what the Court had to consider was the words by which they effected it and which were the real key to their meaning. For those reasons he was clearly of opinion that this penalty was not capable of being enforced against a corporation because it was not mentioned in the statute.

Mr. Justice Johnson concurred.

The decision of the Magistrates was consequently affirmed.

Mr. Ronan, Q.C., asked for costs.

Mr. Justice O'Brien: Oh, yes, as a matter of course.

PROSECUTION OF AN AMERICAN DOCTOR FOR ILLEGALLY PRACTISING.

AT the Cardiff Police Court, on Wednesday, before the Stipendiary (Mr. T. W. Lewis), Talbot Bridgewater, of 18 Custom House Street, was summoned, on the information of Dr. M. G. Evans, of Caerphilly, for wilfully and falsely pretending to be a doctor of medicine, contrary to the 40th section of the Medical Act. Mr. C. A. J. Ward prosecuted on behalf of the British Medical Defence Union, and Mr. H. Belcher defended.

Mr. Ward stated that for months the town had been flooded by the defendant with circulars of the ordinary quack character, and whilst on some there was the title "M.D., U.S.A." after the defendant's name, on others there was no such description. For instance, one circular stated that "Dr. Bridgewater can detect the slightest disease of the chest, lungs," &c. Another set forth that "Dr. Bridgewater rises superior to the false code of ethics which tyrannically binds his professional *confrères*." Some of these circulars fell into the hands of Dr. Evans, who thereupon went to the address given, where he saw the defendant. Without any invitation, defendant took hold of Dr. Evans's wrist, and rattled off a long list of diseases, from which he said the doctor was suffering, and the effect of which was practically that he could not live long, and that his only remedy was to place himself in his (defendant's) hands for at least four months, for which the charge would be 5*l.* 5*s.* It was arranged that Dr. Evans should call again the following week. He did so, when the defendant again discussed with him the seriousness of his case, and prescribed for him certain medicines. Dr. Evans asked for a certificate of the disease from which he was suffering, but, though defendant promised this on the receipt of 10*s* 6*d.*, he did not give it. Dr. Evans received a bottle of medicine, for which he paid 5*s.* Mr. Ward said he should call a number of witnesses to prove that for some time defendant had been representing himself to be a doctor of medicine. Mr. Ward then quoted cases in support of the present prosecution.

The Stipendiary: The effect of these decisions appears to be that unless a man is a doctor of medicine of some British university or licensing body he is liable to a penalty under section 40 if he uses the title of M.D.

Dr. M. G. Evans in his evidence said he was not in practice now. Describing his visit to the defendant, he said after waiting ten minutes or a quarter of an hour he was shown into an inner room, where he saw the defendant. He said, "Dr. Bridgewater, I presume?" to which defendant answered in the affirmative. The room had all the appearance of a consulting-room, the table in it being covered with various instruments and apparatus, including a microscope, a test-tube stand, &c. Defendant bade him take a seat, and then took hold of witness's right wrist, pulled out a watch, and said, "You, sir, are suffering from great nervous prostration, spinal irritation, chronic bronchitis, with much coughing on going to bed and rising in the morning. (Laughter)

The Stipendiary: Were you in the same vigorous condition, doctor, as you are now?

Witness: Even better, I think, sir. Defendant went on to tell him that he spat much phlegm; that he had an abnormal digestion, his food being of little use to him; that he had a torpid liver, and that he suffered from sexual debility. With regard to the spinal irritation, defendant told him that, unless it was promptly and properly treated,

it would lead to paralysis of the nerves, and that he would become a miserable object and a burden to both himself and his friends. Witness asked what was the remedy, to which the defendant replied that he must put himself unreservedly under his care for at least four months, for which the charge would be 5*l.* 5*s.* He added that he would have to supply him with both internal and external remedies.

The Stipendiary: What was the result of the interview?

Witness said he arranged to see the defendant that day week, and bring a certain specimen for examination. He did so.

The Stipendiary: That is the date of another offence. Did anything else take place on December 13?

Mr. Ward: No.

Cross-examined by Mr. Belcher: Witness said the description "Dr. Bridgewater, U.S.A." appeared on the window. On the whole of the circulars also were the words "Dr. Bridgewater, M.D., U.S.A." He noticed one diploma in the consulting-room. It was something from a college of the North American Association.

The Stipendiary: Your defence, Mr. Belcher, I presume, is that the defendant is a doctor of medicine of some American college?

Mr. Belcher: My defence is that he did not falsely pretend to be a doctor of medicine within the meaning of this statute.

Mr. Ward: Our contention is that he did pretend to be a doctor of medicine, and we rely on the three cases I have mentioned, especially the last case (Ferdinand's, at the Middlesex Quarter Sessions).

The Stipendiary: Which is not binding on this Court, though the opinion is one which we are bound to speak of with great respect.

Mr. Belcher said, in the Quarter Sessions case referred to Ferdinand was not only charged with falsely pretending to be a doctor of medicine, but with taking and using the title, which was not the case here. His (Mr. Belcher's) contention was that the false pretence must be that of falsely pretending to be a registered English doctor. There was no such false pretence here. All the representations made by the defendant were truthful representations. In all the circulars he described himself as "M.D., U.S.A.", and that he was entitled to do. He analysed the cases quoted to show that the reservation had never been put in, and he also quoted cases in support of his contention that there was no false pretence when a man disclosed his diplomas. There was the case of *Carpenter v. Hamilton*, decided in 1877. Hamilton kept a shop in which he dispensed medicines and gave advice. His description in the window was "John Hamilton, doctor of medicine, Metropolitan Medical College, New York." The Magistrates dismissed the summons against him, and, on appeal, the judges held that they acted rightly, as the man had not falsely pretended to be a doctor of medicine within the meaning of the Act. There was also the case of *Ellis v. Kelly*. The man there held a medical diploma of a German University, and there again the Judges held that he was not wilfully and falsely using the title of doctor of medicine within the meaning of section 40.

The Stipendiary said it appeared to him that the sole question for determination was whether the defendant used a description implying he was registered under the Medical Registration Act. The description he used on every handbill put before the Court was "Dr. Bridgewater, M.D., U.S.A." If he was a medical practitioner of the United States he would not be a medical practitioner within the meaning of this Act, and therefore the summons must be dismissed. Costs were refused.

PROSECUTION OF A LADY DOCTOR.

AT the same court, Eliza Foster McDonough Frikart was charged with wilfully and falsely using the title of doctor of medicine.

Mr. Ward said in this case the defendant was at one time registered under the Act, but her name had been erased.

Mr. Belcher said the defendant had had no notice of any erasure and produced her certificate of registration. He submitted that the prosecution must prove that the defendant had had notice of erasure before they could proceed.

The Stipendiary: When did her name last appear on the register?

Mr. Ward: I think it was in 1894.

The Stipendiary: There seems to have been no attempt to mislead the public. Defendant is duly licensed.

Mr. Belcher: She is a licentiate of King and Queen's College, Dublin; she has a special diploma for midwifery, and she is a doctor of medicine of the University of Zürich—a very high degree indeed. She has held public appointments in this country, and just because she is not for the moment on the register—she having changed her address, and not having received any notice that her name had been erased—these proceedings are taken. She is a duly-qualified practitioner, and honestly believes that she is entitled to use the title.

Mr. Ward said the mere fact of her name not being on the register must be taken as proof that she is not registered under the Act.

Mr. Belcher: According to section 27, the absence of the name of any person on the register shall be evidence that she is not registered until the contrary is proved. I say the contrary is made to appear here by this certificate.

The Stipendiary: She does not falsely use the title if she is a doctor of medicine.

Mr. Ward: But she can't use the title of doctor unless she is registered under the Act, and she is not registered.

The Stipendiary said the object of the section is to prevent fraud and to punish persons who falsely pretend to be doctors of medicine when they are not. You don't dispute the fact that this lady is a doctor of medicine. You simply charge her with falsely using the title. I should say, once a doctor, always a doctor.

Dr. Evans: No, she has had the title taken from her.

The Stipendiary: In face of that I have nothing to do but to dismiss the case.

Dr. Evans: She distinctly told me she was registered "M.D."

Defendant said Dr. Evans had infamously libelled her, and asked if he could not be prosecuted.

The Stipendiary: You had better consult Mr. Belcher if he has libelled you.

COUNTY COURT CASES.

ON SALE OR RETURN.

AT the February sitting of the Dudley County Court, Messrs. Duckworth & Co., wholesale druggists, Manchester, sued Mr. F. Bellingham, of Netherton, for 64*l.* 10*s.*, the value of goods sold and delivered. Against this there was a set-off of 45*l.* which had been paid, leaving a sum of 19*l.* 10*s.* 4*d.* in dispute. Defendant stated that he had returned goods sent on approval to the value of 21*l.* 1*s.* 2*d.* These goods consisted of a number of tins of an extract of hops known by the name of "Bassara," and pans for making the same into a temperance beverage. Plaintiffs intimated that they were willing to take back the pans, but not the "Bassara," which they said had been kept beyond the specified time. Judge Griffith eventually found for the defendant, but without costs.

TRANSFER OF A CHEMIST'S BUSINESS.

AT the February sitting of the Redhill County Court before Judge Lushington, Mr. Frederick S. Sillitoe, who until mid-summer, 1895, carried on business as a chemist and druggist at Station Road, Redhill, sued Mr. Keeble for 18*l.* 14*s.* 8*d.* due for rent, rates, and the cost of decorating the facade of the shop when the business was taken over by the defendant. Mr. Keeble paid 8*l.* 8*s.* 10*d.* into court, and put in a counter-claim for 3*l.* 7*s.* 6*d.*, being the proportionate cost of obtaining a new lease when the business changed hands, and this was admitted, and according to the evidence it appeared that plaintiff carried on the business for twenty-five or thirty years, and being desirous of retiring, he was, through the intervention of a traveller, put into communication with the defendant. There was about seven years of the lease to run, and as defendant wanted a longer lease before taking the business, the matter was brought before the landlord, who agreed to extend the lease upon certain conditions. The negotiations were matured about May 23, 1895, and Mr. Sillitoe engaged a builder to do certain repairs, and at the time Mr. Keeble was living upon the premises and was being

introduced to customers by the plaintiff. Defendant wished the painting to be done more attractively, and agreed to pay an additional 10*l.* An agreement put in stated that the premises were to be transferred by June 24, 1895. The purchase was completed by May 23, but plaintiff was to be allowed to live in the house till June 24. Defendant took over the business and the proceeds of the business from May 23, and plaintiff had to leave as soon as he could, as Mr. Keeble wanted to bring his wife there. Plaintiff had a verbal agreement that he was to pay the rent till June 24, on condition that Mr. Keeble repaid him. Mr. Keeble denied this, and stated that he took possession on June 24. Defendant also stated that he agreed to pay only one-third the cost of doing up the shop-front—viz., 6*l.* 13*s.* 4*d.* His Honour gave judgment for defendant on all points, and expressed regret at the conflict of evidence. His Honour also declined to state a case or to grant a new trial.

SALE OF FOOD AND DRUGS ACT.

WHITE WAX.

A PROSECUTION was commenced at the Marylebone Police Court on Thursday of Mr. Jefferson Dodd, chemist, 146 Edgware Road, for selling 2 oz. of white wax, certified to have been adulterated with paraffin to the extent of 38 per cent. The defence was that wax was not a drug. The hearing was adjourned till Friday, and the case will be reported next week.

Bankruptcy Report.

Re JOHN BERRY, 18 Westbourne Road, Barnsbury, Licensed Medicine-vendor.

A RECEIVING ORDER was made in this case last Monday, at the London Bankruptcy Court, upon a petition presented by Messrs. Mote & Son on the debtor's behalf. He also carried on business as a coal-merchant and family draper. The assets include a small stock of medicines, a stock of drapery, valued at 50*l.*, bank-balance 2*l.*, and book-debts 600*l.* The amount of the liabilities was not stated.

Gazette.

PARTNERSHIPS DISSOLVED.

Benthall, A., and Lovegrove, C., physicians, Walbrook, E.C., under the style of Benthall & Lovegrove.
Tebbutt, J., and Harrison, R., under the style of Christy & Co., Leicester, manufacturing chemists.

THE BANKRUPTCY ACTS, 1883 AND 1890.

RECEIVING ORDER.

Meggitt, Herbert, York Lodge, Norwood Road, S.E., surgeon.

ADJUDICATIONS.

Bately, Robert Godfrey, Gorleston, surgeon.
Hoare, John, Preston-next-Faversham, mineral-water manufacturer and carter.

ORDER MADE ON APPLICATION FOR DISCHARGE.

Winter, Caleb Hobbs, Starbeck, late Harrogate, manager of Winter's Home for Chronic Diseases—discharge suspended for five years, ending January 14, 1901.

Deed of Arrangement.

McMillan, James, & Son (James McMillan, trading as), 1 Harrington Street, and residing at 33 Selborne Street, Liverpool, chemical broker. Dated, February 3; filed, February 4. Unsecured liabilities, 272*l.* 17*s.* 8*d.*; estimated net assets, 33*l.* 10*s.* Composition of 2*s.* 6*d.* in the pound, payable forthwith. The following are scheduled as creditors:—

	£ s. d.
Briscoe, W. H., & Co., Birmingham ..	14 0 0
Catterall, T., Wigan ..	61 0 0
Law Brothers, Liverpool ..	60 0 0
Lockwood, W., Ripon ..	84 0 0
Bankers' claims ..	14 0

The Proprietary Articles Trades Association.

THE first meeting of the Council of the above Association was held at Auderton's Hotel, Fleet Street, London, on Wednesday, February 12. Almost all of the members of the Council were present at the meeting.

The first business was that of the election of officers for the first three months. The following gentlemen were ultimately elected:—President, Mr. Elliman; Vice-Presidents, Mr. Gilligan (Liebig Company) and Mr. G. R. Barclay (Barclay & Sons). Mr. Barclay was also asked to continue for the present in the office of Treasurer, and Mr. Glyn-Jones was elected Secretary.

The Secretary announced that he had communicated with the retail members who had up to last week joined the Association, asking them whether they would be prepared to act upon the Council for the first three months. Ten gentlemen had consented, and it was therefore decided that they should be elected as the retail section of the preliminary Council. The following are the names:—

Barnes, W. R., chemist, Upton Manor, London, E.
 Cocks, James, 8 Edgcombe Street, Stonehouse, Devon.
 Cooper, Albert, 80 Gloucester Road, South Kensington, London, S.W.
 Garrett, T. P., 33 Commercial Street, Newport
 Gower, A. J., chemist, Tonbridge
 Holloway, E. A., 34 Fleet Street, Torquay
 Johnston, W., 69 Loughborough Road, Brixton, London, S.W.
 Jones, W. (Morris, Banks & Co.), 2 High Street, Birmingham
 Lister, S., chemist, Great Horton
 Morgan, W. James, Llanelli, South Wales

It was decided to form an executive committee for dealing with matters of finance and emergency, to consist of the officers above mentioned, and Messrs. Hall (Hall's Coca-wine), Tebbutt (W. Sutton & Co.), and Johnston, chemist, Brixton.

The Secretary said he had received several communications from country members, suggesting that the expenses of attending meetings of the Council should be refunded to them. After some discussion it was decided that, at any rate for the present, this would not be advisable.

The absence of any member of the retail grocery trade upon the Council was commented upon. The Secretary explained that as the grocery trade had not been directly communicated with, with one or two exceptions, no member of that trade had joined the Association. He said he hoped that that meeting would empower him to take steps to communicate with the Grocers' Federation, with the view of soliciting their co-operation, and that as the result of such action by the time the first annual Council would be elected a sufficient number of retail grocers who were handling proprietary articles would have joined the Association, and thus the Council could consist of members both of the wholesale and retail grocery trades. A motion was moved by Mr. Johnston, seconded by Mr. Gilligan, and unanimously carried, that the Secretary be instructed to communicate with the Secretary of the Grocers' Federation, and also with the secretaries of local pharmaceutical associations, drawing their attention to the formation of this Association and soliciting the assistance and co-operation of their respective organisations.

A scheme for carrying out the objects of the Association, which had been drawn up by the Secretary, was then submitted to the meeting. It provided for a minimum profit of 10 per cent. to wholesale houses, and of 20 to 25 per cent. to retailers. The execution of the plan would involve separate invoices for protected articles; these invoices to be sent by retailers monthly to the Association's offices, which would serve as a clearing house. Retailers who agreed to the anti-cutting terms fixed to have a rebate equal to about 2d. in the shilling, which would be credited to them through the wholesale house from which the goods had been bought.

This proposal was severely criticised by representatives of the wholesale houses present, who pointed out that it would involve an enormous increase of clerical work and book-keeping. Mr. Jones, of Birmingham, who had been sent to

the meeting as a delegate of the Trade Committee of the Midland Pharmaceutical Association, to whom a copy of the scheme had been submitted, said that his committee had instructed him to say that in their opinion any system of rebate was objectionable, and that they considered a scheme on the lines of Mr. Elliman's, but enlarged so as to embrace other articles, was preferable. The consensus of opinion at the meeting was decidedly in keeping with these views, and it was felt that the scheme suggested by the Secretary would be too cumbersome and too expensive in its working, and it was withdrawn. Mr. Bird (of Birmingham), Mr. Gilligan, and several other gentlemen thought it would be well if the Council would communicate with Mr. Giles, of the Grocers' Federation, asking him whether a conference could not be arranged between representatives of this Association and the committee of the Grocers' Federation, which at present had this matter under consideration. This was afterwards put in the form of a motion, and unanimously agreed to. In the event of a favourable reply being received from the Grocers' Federation, it was decided that the Executive Committee, with Mr. Roberts (May, Roberts & Co.) and Mr. Bird (of Birmingham), should be asked to attend the conference.

Trade Notes.

WE have received a copy of Mr. John Milne's new price-list of antiseptic surgical dressings, issued from the factory, Ladywell, S.E.

THE LIQUOR CARNIS COMPANY have established a Paris dépôt for their goods with Messrs. Ch. Buchet & Co., the Pharmacie Centrale de France, 7 Rue Jouy, Paris.

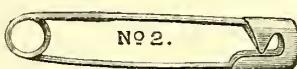
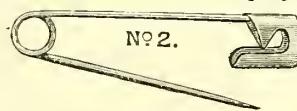
MESSRS. MCKESSON & ROBBINS, New York, have published a pamphlet on "Exaline," containing reprints of some of the more notable papers which have been written about the remedy.

SEASIDE TRADE.—We hear from Bournemouth and other south country invalid resorts that chemists are feeling the present mild winter keenly, as the number of visitors is much below what has been experienced for many years.

MESSRS. F. STEARNS & CO., of Detroit, U.S., announce that after February 22 their business in this country will be entirely in the hands of Messrs. Thomas Christy & Co., of 25 Lime Street, E.C. Mr. W. A. Richardson, who has represented them here for the past two years, will shortly return to America. Messrs. Thomas Christy & Co. will always have his address.

MESSRS. POTTER & CLARKE, Artillery Lane, E., have an advertisement in our issue this week which reminds us that chemists who do business in garden and flower seeds will this month be laying in stock. This is a profitable branch of business in which there is no cutting, and it brings into the shop many customers who might otherwise never darken the door. From what we know of Messrs. Potter & Clarke's business in this department we can recommend a perusal of their seed-list.

MESSRS. W. R. HATRICK & CO. (LIMITED), Snow Hill, E.C., have introduced one of the Ellwood Lee Company's surgical specialities which, though small, deserves attention. This consists of a new surgical steel safety pin, the point of which comes out on either side of the catch, and this without endangering the safety of the pin in the slightest. The illustration annexed shows the form of the pin, and we should imagine that for many surgical purposes it will be preferred to the old shape. The pins are put up on cards of a dozen, and the wholesale price leaves a good margin of profit when retailing the pins at 6d. per card.



Personalities.

MR. ARTHUR J. BURNS, chemist and druggist, Mohill, has been appointed a magistrate for the county of Leitrim.

MR. WILLIAM LITCHFIELD, chemist, Longton, will represent the Sutherland Ward in the Municipal Council of the Borough of Longton.

MR. R. PAULL, who for the past eight years has been representing the Chemists' Association (Curtain Road) in Birmingham, has joined the staff of Messrs. Goodall, Backhouse & Co., of Leeds, and is covering the same district for them.

IN our report of the "Action for Wrongful Dismissal," last week, page 219, the name of the chemist who was sued was given as William Henry Galloway, chemist, Berners Street, Oxford Street. It should have been P. H. Galloway, chemist, 74 Deacon Street, Walworth, S.E.

MR BRENT GOOD, the proprietor of Carter's "Little Liver Pills," was married, last month to Miss Frances Colfax Colwell, of Brooklyn, N.Y. Mrs. Good is a near relative of the late Schuyler Colfax, who was Vice-President of the United States during Grant's administration.

MR. J. C. HEWLETT, F.C.S., of the firm of C. J. Hewlett & Son, Charlotte Street, E.C., is starting this week for an extensive tour through the Mediterranean and Levant, calling at Gibraltar, Malta, &c. Business letters may be addressed, after February 29, care of the manager, Anglo-Egyptian Bank, Cairo.

MR. R. CLAY SUDLOW, the popular general manager of Messrs. Burroughs, Wellcome & Co., has just returned to business, after a six weeks' holiday and rest from business cares in Egypt. He is in the best of health and spirits, and has thoroughly enjoyed the change. "For the recuperation of a tired brain," he declares, "there is no place like Egypt," though we presume that "Fellows" and "Kepler" still hold as high a place in his esteem as ever they did.

A BRASS tablet has been placed in Eastbourne Congregational Church to the memory of the late Mr. Samuel Hall, chemist and druggist, 45 Seaside Road, Eastbourne. The deceased was the founder of the church, and at the time of his death senior deacon. The tablet, which has been erected by the members of the congregation, bears the following inscription:—"In loving memory of Samuel Hall, the father of Congregationalism in Eastbourne, and senior deacon of this church. Died January 6, 1895, aged 75. Looking unto Jesus." It was unveiled at a special service on February 6, by Alderman Strange, J.P.

MR. WILLIAM JUDD (of Judd & Manners, chemists transfer-agents, 76 Cannon Street, E.C.), was installed Worshipful Master of the Chine Lodge of Freemasons (Shanklin, I.W.) on January 30. Bro. William Judd, who was the first initiate of the lodge, has filled every office from I.G. to S.W. He left Shanklin in the year 1887, and the members of the lodge have now placed him in the chair. Bro. Judd is a member of the Galen Lodge, No. 2,394, and J.W. of the Temple Mark Lodge, No. 322. His zeal and interest in Masonry in general and Chine Lodge in particular amount to enthusiasm. After the installation, the brethren dined together, and Bro. Judd, in responding to the toast of his health, said that, though living at a distance, it would be no obstacle to his attending every monthly meeting. He loved the Craft, and what to some was only a shadow was to him a substance. As he travelled north, south, east, and west, he always met with a kindly welcome from brother Masons, but none was so gratifying to him as that accorded by his mother lodge. He was an enthusiast in Masonry, and he was pleased to say his wife upheld him, which was not always the case. When he mentioned to her his desire to pass through the chair of the Chine Lodge, she said, "It is what I should like you to do." She encouraged him in everything Masonic. If, when he came to the work, they found him deficient, they must not put it down to want of will, but want of ability.

New Companies and Company News.

HATOLINE (LIMITED).—Capital 1,000*l.*, in 5*s.* shares. Objects: To enter into an agreement with The Debenture Trust and Assets Corporation (Limited), and to manufacture, sell and deal in a secret preparation called "Hatoline" for renovating silk and other hats. Registered without articles of association.

MINBU OIL COMPANY OF BURMA (LIMITED).—Capital 20,000*l.*, in 10*l.* shares (1,000 8*s.* per cent. cumulative preference). Objects: To acquire about 7*sq.* miles of land (with mines, wells and springs) in Upper Burma, and to carry on the business of oil refiners, distillers and manufacturers, druggists, drysalters, oil and colour men, dyemakers, paint and varnish manufacturers, &c. The regulations of Table A. mainly apply.

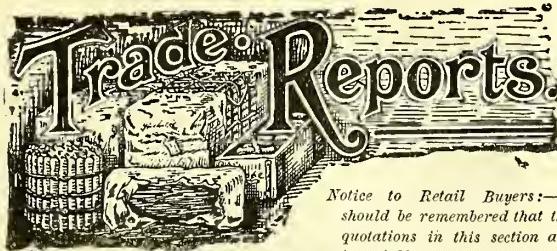
STANDARD WAX CANDLE COMPANY (LIMITED).—Capital 2,000*l.*, in 1*l.* shares (1,000 8*s.* per cent. cumulative preference). Objects: To acquire the machinery, fittings and fixtures of Samuel S. Smith, and to carry on the business of makers of and dealers in wax candles, carriage candles, night lights, paraffin wax, soap, &c. Registered without articles of association. Registered office, 55 New Street, Aston New Town, Birmingham.

POCKLINGTON AERATED WATER COMPANY (LIMITED).—Capital 500*l.*, in 1*l.* shares (100 preference). Objects: To acquire and take over as a going concern the business carried on by George Brigham, chemist, at Pocklington, Yorks, and to carry on business as aerated and mineral water manufacturers, and importers, exporters, merchants, &c. The first directors (to number not fewer than three nor more than five) are:—Arthur G. Ottley, Christopher Bocter and George Brigham, all of Pocklington. Qualification 30 shares. Remuneration one-half of the net profits after the members have received 5 per cent. per annum.

THE SCOTTISH ACID AND ALKALI COMPANY.—Registered in Edinburgh. Capital 25,000*l.*, in 10*l.* shares. The object of this company is to carry on business as manufacturers of chemical products and drugs of all kinds, manufacturers of dyes, stains, colours, varnishes, waterproofers, chemical engineers, &c. The first subscribers are:—Richard Clark, 17 Smith's Place, Edinburgh, wholesale chemist; James Anderson, The Vaults, Leith, wine-merchant; W. B. Rankin, Edinburgh, W.S.; R. H. Steedman, Golftyn, Carrick Road, Ayr, chemical-manufacturer; A. Macdonald Maclean, Glenmiln, Campsie Glen, Stirlingshire; W. W. Campbell, Soho Engine-works, Paisley, engineer; W. Dunlop, 82 West Regent Street, Glasgow, chartered accountant. The first directors are Robert Howieson (manager), Richard Clark, James Anderson, Wm. Black Rankin, and Alexander Macdouald Maclean. Registered office, 82 West Regent Street Glasgow.

THE DEE OIL COMPANY (LIMITED), of Saltney, Chester, at their general meeting held in London on February 7, declared a dividend of 6 per cent. per annum on the ordinary shares of the company for the year ended December 31, 1895.

THE statutory meeting of the Castuer-Kellner Alkali Company (Limited) was held at the Cannon Street Hotel on February 6, Mr. W. Mather presiding. The Chairman stated that the directors had secured a very eligible site for the erection of the works at Weston Point, on the estuary of the Mersey. The building of the works had commenced this week, the contracts were placed, and the erection would be pursued with the utmost diligence. He saw no reason to alter the favourable view he had formed many months ago, and his colleagues shared that view. Their company did not stand alone in beginning this electrolytic process in connection with a large chemical industry. One of their largest shareholders was the Deutsche Solvay Werke Gesellschaft, the directors of which having satisfied themselves had not only subscribed largely to the capital of this company, but had determined to erect works in Germany simultaneously with the works which were being erected in England. They thought it desirable at present to confine themselves to one-fourth of the plant ultimately contemplated, and to get such advantage as time and experience would give them in a few months before proceeding with the remainder.



Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large

quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable even for manufacturing purposes. Further points which should be borne in mind are that distributor generally has to bear the bulk of the freight-charges on the goods on their way from the producer to the retailer, and that for many articles the range of quality is very wide.

42 CANNON STREET, E.C., February 13.

BUSINESS in drugs and chemicals has been fairly steady this week, but only a few articles have undergone changes of importance. That trade is generally in a fairly good position is shown to some extent by the fact that the exports of British chemicals and medicinal preparations in January amounted to a value of 761,859L, an increase of 99,192L on the exports in January of last year. The principal alterations in the chemical-market may be summed up as follows:—Citric and tartaric acids are steady. Cream of tartar is slightly easier. Carbolic acid higher, with a tendency towards a further advance. Arsenic extremely scarce and higher. Glycerine is not so firm as it has been. Quinine has almost been a dead-letter. Refined camphor unchanged. Some particulars with regard to a falling clause in contracts will be found below. In drugs the chief changes are in crude camphor, which has been in active demand at higher rates, insect-flowers (for which much higher prices are quoted in Trieste) and cod-liver oil, now approaching famine rates for fine new season's grades. Damiana leaves are dearer. Balsam Peru has eased off somewhat, and cochineal is also rather quiet. Ergot of rye neglected. In ipecacuanha a small business is doing at steady rates. Menthol quiet. Cassia oil is decidedly easier. Star-anise oil barely maintained in value. Citronella oil active and steady. The market has been cleared of crude camphor oil. Tolu balsam is rather lower. Opium fairly active at steady rates. In the spice-market we have to report a quiet tone for new crop. Cochin ginger and nutmegs were rather firmer at auction. Pimento is slightly steadier. White pepper has been weaker during the last few days, but closes firmer; black rather easier. Cloves steady with a somewhat better demand. Shellac is improving. At auction orange was steady; Garnet lac and button slightly easier. Since then there has been an improvement all round. At to-day's sales of varnish-gums, Kauri was in active demand, and sold at an advance of from 5s. to 15s. on the better grades. Copal gum was neglected and lower. Gum animi about 5s. easier. Heavy chemicals remain fairly steady. Chlorate of potash is very firm; permanganate tending higher. Sulphate of ammonia steadier. Sulphate of copper firmly held. Benzol slightly higher. Quicksilver has been reduced in price. In oils the principal alterations are a lower market in linseed and rapeseed. Crude cocoanut oil closes at 14s 6d., a decline of 4½d., while refined is barely steady; Cochin cocoanut oil slightly higher; palm oil steady; olive oils unchanged. Turpentine considerably weaker at 20s. 1½d. for American. Petroleum lower at 5s 5d. to 7½d. for

American, according to brand. The Bank-rate remains 2 per cent., and bar silver is slightly higher at 30½d. per oz.

American Cablegram. Our New York correspondent telegraphs on Thursday, February 13, that during the week there has been renewed activity in the *Cascara sagrada* market, 4c. per lb. being the closing quotation for good quality. *Sassafras root* is quoted at 11c. per lb., which is a very large rise during the present month, the quotation in January being only 7½c. *Tonka beans* still remain firmly held, although there has been no further improvement in the quotation, *Angosturas* being still obtainable at \$2.50 per lb. for fine quality. *Vanilla* is advancing all round in sympathy with higher reports from Mexico. *Aloes* steady, at 3½c. for fair livery *Curaçao* and 4c. for better quality so-called *Barbados*. Large sales have been made in *Chicle gum* at an increase of 2c. per lb., 37c. being the lowest quotation paid. The market closes firm, with a prospect of higher rates. *Spermaceti* is weaker, good refined *American* being now offered at 34c. per lb., a decline of 2c. *Opium* is decidedly easier in tone for all varieties, although quotations remain nominally unchanged. There has been an advance in *Chosh-bark*, for which 4½c. is now required. *Worm seed* is also dearer at 17½c. per lb. *Essential oils* generally steady, *Wayne County peppermint oil* offering at \$1.90, *Western oil* at \$1.80 per lb. For *Sassofras oil* the quotation to day is 39c. per lb.

Our Norwegian correspondent wires, on Thursday afternoon, that the weather in the fishing districts is worse than ever, and violent storms are reported to be raging now. Cod-liver Oil Telegram. The total number of cod caught up to date this year is 1,100,000, against 3,800,000 at the corresponding date of 1895. The quantity of unrefined oil made this year amounts to over 400 hectolitres, against 1,200 hectolitres at the same time of last year. Shippers now ask 220s. per barrel, f.o.b. Berger, for best non-congealing new oil, but several of them do not quote at all, and no business has been transacted since last week's telegram.

ACID (CARBOLIC). has advanced, the manufacturer of ice crystals 39° C. to 40° C. having raised his price this week from 7½d. to 7½d., and to-day to 8d. per lb.; 34–35° C. are quoted at 6½d. to 6½d. per lb. Crude carbolic acid is also much higher: 60 per cent. has been sold at 1s. 10d. to 1s. 10½d. per gallon, and some say that as much as 2s. has been obtained. We believe there has been a strong demand for salicylic-acid making recently, and that this accounts, at least partly, for the rise, although the chief reason is the increased export demand.

ACID (TARTARIC).—Steady, but without much business. The English manufacturers ask 1s. 2d. per lb. for prompt, and 1s. 3½d. for forward, delivery foreign agents quoting 1s. 2½d. per lb. At auction on Tuesday 21 bags grey *Cape Argol* sold at the high price of 65s. per cwt.

AMMONIA.—Liquid anhydrous is quoted on the spot at 7d. per lb.; for export, at 6½d. f.o.b. continental ports. Liquor ammoniae 0.880 is held for 2½d., 900 for 1½d. per lb. on the spot. *Muriate*, 99 per cent., in powder at 23s., in large crystals at 33s. per cwt. on the spot.

ARSENIC.—Dearer. English, 19s. in barrels and 20s. in kegs. Foreign, however, offers in white or yellow lump at 22s. 3d. to 22s. 9d., white powder at 17s. 9d. to 18s. 3d., and red powder at 24s. 9d. to 25s. 3d. per cwt., f.o.b. Hamburg, prompt shipment.

BALSAM PERU—Rather easier; good genuine quality of direct import offers at 8s. 3d. per lb. on the spot. For shipment no quotations are obtainable.

CAMPHOR (CRUDE).—Early this week, the brokers operating for the syndicate again appeared on the market, and purchased, it is said, 1,200 piculs of *Japanese* camphor on the spot at prices beginning at 18s. 6d., and rising to

210s. per cwt.; part, if not the whole, of this was bought from a firm of English dealers and refiners who have established business comparatively recently. These purchases gave a considerably better tone to the market, and for arrival a fair amount of business, amounting altogether to about 1,000 piculs, was also reported at rising quotations, viz., 180s. to 185s. c.i.f., for Japanese by steamer at hand, and from 165s. to 166s. 6d., c.i.f., for Formosa, February-April steamer shipment. The quotation of this variety in the same position is now said to be 172s. 6d., c.i.f.

CAMPHOR (REFINED).—The principal feature of interest this week has been the sending out of a circular by a firm of English chemical manufacturers who have lately begun camphor refining, in which, after offering bolls at 2s. 3d. per lb. on the spot, they state that they are willing to make contracts for a year on the basis of what may be described as a sliding scale, the price for refined to be fixed in proportion to the price of crude at the time of delivery of the refined. Three firms of Mincing Lane brokers are mentioned in the circular as the sources from which the quotation for crude may be obtained, and it seems that the average of the prices quoted by them is to be the basis upon which the refined camphor is to be charged. It is quite clear that such a falling clause will be entered into by buyers with extreme caution, as it is clearly liable to misinterpretation. The older English camphor refiners have made no alteration.

CASCARA SAGRADA.—The last business was at the rate of 21s. per lb. on the spot for good quality. Market firm.

CREAM OF TARTAR has eased off somewhat. No business of any consequence is reported this week, and best white French crystals offer from Bordeaux at 101s. to 102s., f.o.b. London quotes crystals 105s. to 106s., powder 107s. to 110s. per cwt.

DAMIANA LEAVES have lately considerably improved in value; 8d. per lb. is now the spot quotation for good quality.

GALLS.—Chinese nutgalls are steady, with sales of a few hundred cases ordinary shape: February-April steamer shipment at 75s. per cwt., c.i.f. Continent. The nearest quotation is now 57s. 6d., c.i.f., and on the spot 67s. per cwt. It is also said that about 250 cases Japanese galls have been sold at 52s., c.i.f. Continent.

GLYCERINE—Most of the British and foreign distillers have made no change in quotation, but some brands are offering at a reduction, one maker quoting 68s. for double-distilled s.g. 1.260, for which he recently asked 70s., and an English manufacturer being reported to offer the same quality at 66s. on the spot.

INSECT FLOWERS.—The Trieste market is still advancing rapidly, but up to the present English buyers appear to be taking little part in the movement. They are probably following their usual custom of buying in March, so that the flowers may be ground and ready for sale in London at the beginning of the summer season. The first-hand stock in Trieste at the end of January was 135 tons, against 340 tons at the end of January, 1895. It is also said that in the growing-districts there is scarcely any stock left.

The following are the closing quotations:—"Open" flowers, 66s. to 77s. t.o.b.; "half closed," 80s. to 95s. f.o.b.; and "closed," from 116s. to 135s. f.o.b.

OIL (COD-LIVER).—We refer to the commercial position of this article generally on another page. The last mail reports from the Lofoden districts, dated February 8, are as follows:—Number of fish caught, 160,000, yielding 200 hectolitres of liver and 18 hectolitres of oil. The livers are very small, and run from 570 to 740 per hectolitre. So far the result has been the poorest obtained in the Lofoden districts for many years. The usual fishing-season in Vesterålen and Senja is now at an end, the result having been a complete failure, as only 50 barrels of unrefined oil, equalling about 33 barrels of refined, have been obtained. In London, one of the principal agents has sold 5 barrels of this season's oil at 195s., c.i.f. terms, and claims that since then he has made 205s., c.i.f., for a small lot. He now quotes 210s., c.i.f., but cannot guarantee any delivery this month. The other principal importers decline to give any quotations for new oil. Old oil has been sold at 180s. per barrel, spot.

OILS (ESSENTIAL).—Star anise barely steady, with sales at 10s. 1½d. down to 10s. per lb. on the spot. The c.i.f.

quotations are out of proportion high to the spot price. Oil of Cassia is quoted decidedly easier, the lowest price of which we bear for 80 per cent. to 85 per cent. is 9s. 6d.; 70 per cent. to 75 per cent., 8s. to 8s. 3d.; and 50 per cent. to 55 per cent., 6s. per lb. The market, however, seems quite unsettled for the present, and we are not certain that it would be possible to buy at the quotations given by us. Citronella oil has been in good demand lately, especially for shipment to America, and fair sales have been made. On the spot the quotation is 2s. to 2s. 2d. per lb., and for arrival the following pieces have been paid:—January-March steamer shipment 1s. 10d.; June shipment, 1s. 9d.; and August, 1s. 8½d. per lb., c.i.f. There has been a considerable trade in dark Japanese camphor oil, of which the market has been cleared at 45s. per cwt.; the asking-piece is now 50s. English Oil of patchouli has lately advanced about 3d. per oz., and is now held for 1s. 5d. to 1s. 6d. per oz.

OPIUM.—The London market is moderately active, although up to the present no great activity has resulted from the alarmist news received from Smyrna, announcing general damage to the crop in the producing districts. Our quotations remain as follow:—Good to fine Soft-shipping, 11s. 6d. to 13s.; good to fine Smyrna, from 8s to 8s. 9d.; Druggists' seconds, 7s. 6d. to 7s. 9d.; and ordinary to fine Constantinople, 8s. to 8s. 9d. per lb. Persian is extremely firm at from 11s. for ordinary up to 13s. for fine new crop, sales being reported at the last-named figure, although some holders ask 13s. 6d. per lb. Soft shipping gum of fine quality is extremely scarce.

PERMANGANATE OF POTASH has been in very good demand recently, and it is difficult to obtain supplies for immediate delivery. The makers' quotations are 65s. for small and 70s. for large crystals, and second-hand holders are offering very little, if at all, below that figure.

QUICKSILVER.—On Friday last the chief importer reduced his price to 7l. 2s. 6d. per bottle. Considerable sales were made at about that price, which continues to be the official quotation. Secondhand holders quote 7l. 1s. 6d. to 7l. 2s.

QUININE has been almost a dead letter this week. It is doubtful whether German in bulk could be had from the second-hand below 1s. 1¼d. per oz., but we have heard of quotations as low as 13d.

SCAMMONY.—Root is firmly held at 47s. 6d. to 50s per cwt., but no business has been reported recently; the stock is comparatively small. In Turkish scammony resin there has also been an absence of activity. Fine first Virgin scammony is held at from 31s. to 32s.: seconds, nominally, at 20s. to 25s. per lb.

SEEDS (VARIOUS).—For good Spanish Anise 27s. to 29s. per cwt. is asked, the low figure at which sales were made at the last auction being no longer able to secure lots. Fair Russian is held for 21s. per cwt. In Canary seed a good business has lately been done in Moroccan, fine quality, at 37s. to 38s. per quarter. Turkish seed is very slow of sale at 32s. to 32s. 6d., while for Spanish 45s. to 47s. is the price. Caraway rather dearer; for good quality Dutch seed, on the spot, 28s. 6d. per cwt. must be paid. Coriander is held at 21s. per cwt. for good English, and 17s. per cwt. for Mogador. The parcels of low quality East Indian Coriander which were recently so obtained have all been bought up at about 3s. per lb., and 5s. is now asked for this quality. Cumin seed fairly steady at 34s. to 35s. for fair Malta of the last crop, and 31s. per cwt. for Mogador. Fennel has become rather firmer lately; good Bomboy seed is quoted at 17s. 6d. per cwt., but it is said that the price in Bombay is about 1s. 6d. above that quoted here. Fenugreek seed very dull of sale at 8s. per ton for Moroccan and 7s. for East Indian seed.

SENNA.—There has been a fair amount of business lately in Alexandrian at 8d. per lb. for fair picked leaves, 2½d. for siftings, and 2¾d. for fair sorts. Broken leaf off. rs at 5d. to 6d. per lb., and fair pods at 4d. to 5d. per lb.

SENEGA.—Good bright quality may be had on the spot at 1s. 3d. per lb.

TRAGACANTH.—Quiet. Some considerable arrivals have taken place recently of Persian gum, but prices still remain unchanged. White firsts, 14l. 15s. to 15l.; seconds, 13l. to 14l. 10s. per cwt.

The Liverpool Drug-market.

Our Liverpool correspondent, writing on February 12, says that Soudan sorts of gum Acacia do not command the attention of buyers to any extent; only small lots are moving off, chiefly of the better qualities, at 58s. to 60s. cwt. Brazilian is in small compass, and again meets with rather more inquiry. Niger is inactive, buyers declining to pay present rates. Turpentine has been selling at 20s. 6d. cwt., and is in good demand at the moment. Castor-oil has improved materially during the week. Good seconds Calcutta, after declining to 2 $\frac{3}{4}$ d., has advanced to 2 $\frac{7}{16}$ d. to 2 $\frac{1}{2}$ d., which is now being asked by some holders; First pressure French is held firmly at 2 $\frac{2}{3}$ d. to 2 $\frac{7}{16}$ d. per lb., and Madras is in very limited supply at 2 $\frac{3}{4}$ d. per lb. Cream of Tartar is in very few hands, and the holders are sparing sellers of first white at 105s. A parcel of gum Guaiacum realised about 9d. for 4 barrels and 5d. for 47 boxes, fair quality. The new crop of African ginger is arriving, and sales are being made in the neighbourhood of 21s. to 27s. 6d. cwt. Of Kola-nuts: 45 bags sold at 5 $\frac{1}{2}$ d., 14 bags sold at 4 $\frac{1}{2}$ d. to 6d. and 11 bags at 6 $\frac{1}{4}$ d. lb.; while 7d. is asked for fresh, but only 6d. bid. Honey's of all grades are steady and unchanged. Chlorate of potash: The combination price is still firm at 4 $\frac{7}{8}$ d. lb.

The Smyrna Opium-market.

We have received the following reports from our correspondents in Smyrna under date of February 3:—On January 24 Smyrna dealers received telegraphic advice from the interior that a severe frost had suddenly set in over a great part of the producing districts and destroyed a considerable number of the young plants sown during the autumn. It is believed, however, that the damage cannot be so serious as it has been stated, inasmuch as it is well known that snow had fallen heavily in the growing-country, and it is therefore thought that the plants so protected will have little to fear. The news, however, called for activity on the part of the Smyrna speculators, and the quotations at the end of the month were as follows: Old manufacturing opium, 7s. 10d.; new selected Talequale for manufacturing purposes, 7s. 10d.; Yerli and Boghaditz Talequale, 7s. 11d. to 8s.; fair seconds, 7s. 10d. to 7s. 11d.; and current Talequale, 7s. 9d. per lb., all f.o.b. Smyrna. The sales in Smyrna during the month consist of about 160 cases, and the stock both of old and new is about 2,680 cases.

The Amsterdam Cinchona-market.

Our correspondent writes that the Java cinchona-bark auction which will be held in Amsterdam on February 20 will be extremely large, the total declarations amounting to 7,715 bales and 325 cases, together containing 725,219 kilos of bark. The average quinine contents of the bark is also exceedingly high, viz., 5 1/4 per cent., the total weight of Sulphate of quinine in the bark being 36,559 kilos, of which 36,005 k. is contained in the manufacturing bark; the total weight of the manufacturing bark being 702,002, and that of the pharmaceutical bark 23,217 kilos.

The Hamburg Drug-market.

Our Hamburg correspondent writes on February 11:—the market for drugs and chemicals has been very quiet since last week, without any great change of prices. Antimony firm, but little business doing; to-day's quotation is 32 $\frac{1}{2}$ m. for crude, 65m. per 100 kilos. for regulus. Arsenic is steady; white lump, 45m. to 46m. per 100 kilos. Acid (carbolic), 40 per cent. crystals, 160m. to 165m. per 100 kilos. Acid (tartaric), free from lead, 280m. per 100 kilos. Acid (oxalic), 78n. per 100 kilos. Agar-Agar (Japanese isinglass) is reported higher from Japan, and consequently prices are improving here also. To-day's quotation, 230m. per 100 kilos. Balsam copaiba unaltered; pure quality, 330m. to 350m. per 100 kilos. Balsam Peru somewhat easier, at 17 $\frac{1}{2}$ m. per kilo. Camphor (refined) is quiet at 455m. per 100 kilos. Cintharides unchanged, at 425m. for Russian. Cascara sagrada is offering at 42m. per 100 kilos. Cream of tartar, best white, 250m. per 100 kilos.; 99-100, 230m. Glycerine is still firm: 28 deg double dist., 122 $\frac{1}{2}$ m.; 30 deg., 132 $\frac{1}{2}$ m.; refined (23 deg.), 112 $\frac{1}{2}$ m. per 100 kilos. Oil (cod-liver): The catch in Norway does not seem to turn out well this year, therefore higher prices are ruling for oil; 1895 non-freezing is quoted here to-day at 160m., 1893 at 175m. per barrel. Refined cotton oil is quiet and neglected.

Price List.

WE give below the current wholesale market quotations of the principal essential oils of commerce. The quotations are for large quantities in original packages, and the prices (unless otherwise stated) are for goods delivered at the warehouse or factory in London, usual trade terms. It should be borne in mind that in essential oils, perhaps more than in any other department of the drug-trade, the quality of the goods (and consequently the price) is subject to great differences. It is not unusual to find that one manufacturer lists an oil in precisely the same terms as his rival, but at half the price. Where possible we have added qualifying terms which will give a fair clue to the quality of the article quoted; but as it is our desire to hold the balance as even as possible between the distiller and the buyer (large or small), a considerable latitude has been allowed in many instances between the highest and the lowest quotation. Buyers must bear in mind that they cannot expect broken packages at anything like the prices quoted below.

Article	Quality and Origin	Price per	From	To
			s. d.	s. d.
Ess. Oil of Almonds (bitter)	Genuine English	lb.	22	0
" "	Foreign	"	16	0
" "	Fried from prussic acid,			
" "	English	"	26	0
" "	Foreign	"	18	2
" "	From peach-kernels		20	6
" "	English	"	16	0
" "	Foreign	"	14	6
Expr. " (sweet)	Artificial	"	2	3
" "	Genuine, good to fine		3	0
" "	pale ..	English	1	1
" "	Foreign	"	1	5
" "	From peach-kernels		1	9
" "	Foreign	"	0	9
Ess. Oil of Amber ..	Rectified	"	1	0
" Ambrette ..	Crude	"	1	3
" Angelica ..	From root	"	0	6
" Anise ..	seed	"	34	0
" " (Star) ..	" German or Rus- sian seed	English	56	0
" Arnica ..	German or Rus- sian seed	"	14	0
" Balm ..	(See Melissa)	"	8	0
" Bays ..	(See Laurel)	"	10	0
" Bergamot ..	Fair to fine	lb.	6	0
" Birch-tar ..	Crude	"	0	6
" Bois de Rose ..	Rectified	"	1	0
" Bois de Rose ..	" Double rect." pale ..	"	2	0
" Buncin ..	French	"	14	6
" Cajuput ..	Good green as imported	lb.	50	0
" Galanum ..	Sing. or Celebes	bottl.	3	0
" Camphor ..	Pale	lb.	4	9
" Cananga ..	Dark as imported ..	cwt.	0	6
" Caraway ..	Ordinary Indian to fine Java	lb.	50	0
" " ..	Good from seed ..	lb.	22	6
" " ..	English	"	42	6
" " ..	rectified Foreign	"	6	3
" " ..	Ordinary to fair "natu- ral"	lb.	5	3
" Cardamom ..	Common to fine	lb.	3	3
" Cascarilla ..	English or Foreign	oz.	4	6
" Cassia ..	80-85 per cent.	lb.	35	0
" " ..	70-75 per cent.	"	9	6
" Cedarwood ..	50-55 per cent.	lb.	8	0
" " ..	English	"	6	0
" Celery ..	American, as imported ..	lb.	3	0
" Chamomile ..	From seed	lb.	2	1
" " ..	English or foreign	"	27	3
" " ..	Good to fine Mitcham	lb.	83	0
Expr. Oil of Chammoogra ..	Roman	lb.	46	0
Ess. Oil of Chenopodium ..	As imported E. Indian	lb.	3	0
" " ..	Anthelmintic	"	3	0
" Cherry Laurel ..	Good	lb.	15	0
" " ..	Fried from prussic acid	"	8	6
" Cinnamon ..	Genuine distilled in England from chips	lb.	16	0
" " ..	Fine heavy sweet from bark	"	17	6
" " ..	Mixed to fair as im- ported	"	0	8
		oz.	1	6

Article	Quality and Origin	Price per oz.	From	To	Article	Quality and Origin	Price per lb.	From	To
		s. d.	s. d.	s. d.			s. d.	s. d.	s. d.
Ess. Oil of Cinnamon	From leaves as imported				Ess. Oil of Origanum	Ordinary to fine			
" Citronella	Fair native brands in tins	lb. 2 0	2 2		" Orris	French	3 5	5	
" Cloves	From buds English	lb. 2 0	2 3		" Concrete, from Fior-root	English	44 0		
" "	German	" 2 0	2 3		" Concreter Foreign		32 0	33 0	
" "	So-called "Bourbon"	"			" Liquid		5 8	6 3	
" "	French	3 6	3 8		(See Rose)				
" Cognac	From stems Foreign	105 0	120 0		" Otto of Rose	(See Geranium Turkish)			
" "	White, fine rectified	"			" Palmarosa	Genuine, from seed	lb. 12 0		
" "	Green, fair to fine	70 0	95 0		" Parsley	From leaves German	" 19 6	20 0	
" "	Artificial (green or white)	"			" Patchouly	English	1 6		
" Copaiba	From S. Amer. balsam English or Cointin	lb. 2 9	4 0		" Pennyroyal	American	4 0	5 0	
" "	So-called, from Gurjun balsam	"	1 6	1 7	" Pepper	Good to superior French	" 4 6	6 0	
" Coriander	Genuine, dist. in England	oz. 5 0			" Pepper	Commercial to fair	" 2 11	3 8	
" "	Foreign	lb. 24 0	25 0		" Drawn from black pepper				
" Croton	English	" 3 0	3 6		" English or German		11 0	14 0	
" "	Foreign	" 2 0			" Mitcham	French	35 0	38 0	
" Cubeb	English	" 5 0			" Cambridge	"	32 0	35 0	
" "	Foreign	" 5 0	6 6		" H.G.H.	American	10 0		
" Cumin	English	14 0			" M.K. & R.	"	8 0		
" "	Foreign	" 10 6			" D & O				
" Cuscus	(See Vétiver)				" Todd's crystal white				
" Dill	English	" 8 0	11 6		" American		9 6		
" Elderflowers	German	" 8 6	9 6		" Wayne Co. & Michigan	American	" 7 0	7 6	
Estragon		oz. 20 6			" American Mitcham	"			
Eucalyptus	Australian Globulus	lb. 41 0	43 0		" Wild	French	13 0	1	
" "	Australian Amygdalina	" 2 0	2 6		" 40 p.e. menthol	"	5 2		
" "	Non-specified	" 1 8	1 10		" Japanese		7 3		
" Fennel	French	" 2 6	2 9		" Dementholised	"	6 3		
" Galangal	Bitter French or German	" 2 6	3 0		" Petitgrain	French	20 0		
" Galbanum	Sweet	" 4 0	5 0		" Paraguayan	"	6 6		
" Geranium		42 0	46 0		" Pimento	Distilled English	8 6		
" "	Algerian rose-geranium	" 20 0	23 0		" Pine needles	Foreign	4 3	4 9	
" "	Good to superior French	" 25 6	40 0		" From P. Picca, food	"	10 6	12 0	
" "	Réunion or Bourbon	" 20 0			" " P. Puntilonis	"	7 0	8 6	
" "	Spanish	" 33 0	42 0		" " P. Sylvestris,	super.	2 6	3 6	
" Ginger	Turkish (Palmarosa)	" 7 6	8 9		" " P. Sylvestris,	"			
Ginger-grass	E.I. (see Ginger-grass)	" 16 6	17 0		Rhodium	Good to fine commercial	" 1 4	1 9	
Hops	Ordinary commercial to fine	oz. 0 3	0 5		Roses (Otto of Rose)	Good to best brands	30 0	33 0	
" Hyssop	I <i>Humuli Lupuli</i> , good to fine	" 7 6	10 0		" Bulgarian	T.R.K.	34 0	40 0	
" Juniper	Purest English	lb. 39 0			" Commercial to fair	Bulgarian	10 0	25 0	
" "	From Hungarian berries, comventional to fine reet.	" 5 3	6 3		" Bulgarian	"	47 6	57 6	
" Kuro-moji	Common to fair	" 3 0	4 0		" French	"	40 0		
" Lanrel	From wood (Japanese)	" 1 1	1 6		Rosemary	Fine to superior, from flowers	lb. 3 0	3 6	
Expr. Oil of " Ess. Oil of Lauro-ecerasi	Fine green, from leaves	" 7 0	9 0		Commercial to fine	French	1 4	2 6	
" Lavender	Super, for Bay Rum	" 17 0	17 6		" Dalmatian	Dalmatian	1 2	1 10	
" "	From berries	cwt. 80 0			" Spanish	Spanish	3 0		
" "	(See Cherry Laurel)				Rue	Genuine	15 6	16 0	
" Lemongrass	Good to finest Mitcham dist.	lb. 95 0	110 0		" German or French	Commercial to good	3 6	6 6	
" "	French, from petals	" 7 6	12 0		" French or German	"	5 6	6 6	
" "	" fine, from flowers (32-40 p.e. ester)	" 5 0	6 0		Sage	(See Elderflowers)	3 0		
" Lemon	French, comical, to fair	" 2 6	4 0		Sambucus	"			
" Lemongrass	Spanish	" 2 3	4 0		Sandalwood	English	12 6	13 6	
" Linaloës	According to brand and citral-content, good to fine Sicilian	" 2 6	5 0		" French or German	E. I. as imported	13 0	15 0	
" Limes	Fair native brands	oz. 0 2½			" Australian	Australian	11 6		
" Lovage	W.L. good to fine	lb. 5 0	5 6		" Drawn from W. L. wood	"	5 6	6 0	
" Mace	Ordinary to commercial	" 3 0			Sassafras	American	1 7	1 9	
" Mandarin	From Rad. <i>Levisticum</i>	" 55 0	60 0		Savin	Drawn English	34 0		
" Marjoram	Good to fine	" 4 3	5 0		Spearmint	German or Tyrolese	3 0		
" Matleø	"	" 22 6	35 0		" In bulk	American	7 6	7 9	
" Melissa	German	" 24 6	26 0		H.G.H. bottles	H.G.H. bottles	10 3	10 6	
" Miffoil	French	" 5 0	6 6		" American	Am rican	9 9	10 0	
" Mirbane	"	" 40 0	48 0		" Good to superior	French	2 3	3 0	
" "	German	" 30 0			" Commercial to fair	French	1 4	2 0	
" Niobe	"	" 50 0	55 0		Spike	Good to superior	2 3	3 0	
" Nutmeg	Fine double rectified	" 10 0	11 0		"	Commercial to fair	French	1 4	2 0
" "	Good white	" 6 ½	7		"	"	17 0	17 6	
" Musk-seed	" red	" 0 6			"	Sneecini (See Amber)			
" Mustard	Gemmiferous, from European seed	oz. 30 0	35 0		" Tansy	Genuine (See Estragon)			
Expr. Oil of " Ess. Oil of Neroli	Artificial	lb. 18 0	19 6		" Thyme	White (25 p.c. phenol)	5 6		
" "	East Indian	" 13 0	14 6		" fine, from flowers	"	5 1		
" "	From petals	oz. 0 4½			" " comical, to good	"	2 4	4 3	
" Niobe	Commercial to fair	" 5 6	6 3		" Red (25 p.c. phenol)	"	5 0		
" Nutmeg	Good ordinary commercial to good	" 18 9	27 0		" fine, from flowers	"	4 7	4 9	
" Opopanax	English distilled	" 8 6	9 6		" commercial to good	"	1 6	3 3	
" Orange	Foreign white	" 10 0			Valerian	From European or Japau root	10 0	13 0	
" "	Ordinary commercial to good	" 4 3	4 6		"	" Réunion	5 6	6 0	
" "	"	" 6 3	8 0		Wintergreen	Drawn English	10 6	15 0	
" "	"	" 6 3	8 0		" Natural	American	7 0	8 0	
" "	"	"			" Synthetic (methyl-salicylate)	"	4 0	4 6	
" "	"	"			Wormseed	American	8 6	13 6	
" "	"	"			" From cultivated herb	French	22 0	24 0	
" "	"	"			" wild herb	German	11 0	14 6	
" "	"	"			" Ylang-Ylang	Good and fine Maulia	13 6	15 0	
" "	"	"			" Cuumiel, to fair	"	6 0	10 0	



Owing to pressure on our space this week we confine this section to replies to correspondents; letters to the Editor and other replies are reserved until our next issue.

MISCELLANEOUS INQUIRIES.

Back numbers containing formulæ, educational or other specific information can be obtained from the Publisher.

N.B.—All queries should be accompanied by the business card of a subscriber, or the address label from THE CHEMIST AND DRUGGIST wrapper. We destroy anonymous letters. We do not answer queries of the kind here dealt with by post. We ask that separate queries shall be written on separate sheets of paper.

258/7. *J. W.*—White Liniment as Thick as Lard.—Melt together 1 oz. of white wax and 4 oz. of lard and pour into a hot mortar; to this add spirit of turpentine 3*ijj*, in which camphor 3*ss*. has been dissolved, and when the mixture is creamy stir in liq. ammou. fort. 3*ijj*.

260/40. *G. H. B.*—Weed-killer.—See *C. & D.*, September 22, 1894, page 470, and August 17, 1895, page 306.

37/7. *Hg K*—We suppose you mean Kola coca Wine, an uncommon combination. You can make it most easily by adding to a pint of Tarragona port ext. kola liq. 3*s*. and ext. cocæ liq. 3*vj*. The miscible fluid extracts should be used, and after mixing set aside the wine for fourteen days, then filter.

261/50. *C. W. & Co.*—The persistent odour of Coco-nut Oil is chiefly due to caprylic acid, which is even observed after the oil has been saponified and again separated. The odour can to some extent be removed by digesting the oil with 10 per cent. of bone-black and filtering through another 5 per cent. of the same material.

258/11. *J. H. J.*—More than one subscriber has told us, from experience, that the "Model" printing-press suits for small jobs of printing, such as circulars, which they have to do, and while you cannot expect to turn out with it work of the high finish which comes through the use of accessory apparatus, you will find that it is a good investment.

257/41. *Ego.*—Violet Stamp-ink:—

Methyl violet 3B.	..	..	..	..	3 <i>ijj</i> .
Distilled water	..	..	..	..	3 <i>x</i> .
Dilute acetic acid	..	..	..	..	3 <i>x</i> .
Rectified spirit	..	..	..	..	3 <i>iss</i> .
Glycerine	..	..	..	..	3 <i>vij</i> .

Triturate the violet in a mortar with the water, add the glycerine gradually, then the acid and spirit.

257/40. *Plurialis.*—(1) Silvering fluid (DIARY, 1894, page 377).—Directions for use: Heat the solution to about 185° F. in a porcelain or enamelled-iron vessel, and immerse in the solution the articles to be silvered, which should previously have been thoroughly freed from grease. A few minutes' immersion suffices to give the articles a bright lustre, but the longer they remain in the duller does the coating become. (2) Chemical Weather-glass.—We copy the following indications from "Scientific Mysteries":—

Fine.—The liquid part will remain transparent, and the solids will collect at the bottom of the phial.

Rain.—The solids will gradually rise, and small star-shaped crystals will

form and move about in the clear liquid. Twenty-four hours in advance a storm or high wind will be indicated by the liquid becoming turbid, the solid portion rising to the surface. During the hot summer months, in fine weather, the solid portion remains at the bottom; in winter, during frost or snow, the solid particles keep in constant motion.

(3) You are mistaken in supposing that saffron has no therapeutic value: the distinct opinion of those who have taken pains to observe its action is that it is not a flavour merely. To substitute turmeric for it in pulv. cretæ aromat. would be doubly wrong, for turmeric might irritate the intestines considerably. (4) Liquor Potassæ from stick potash.—If B.P. caustic potash (90 per cent. KHO) is used the quantity required for each ounce of solution is 30 gr. A 1-oz bottleful of potas. caustic. will make 14*½* oz. of solution. Dissolve the alkali in 12 oz. of distilled water and make up to 14*½* oz. (5) Belting syrup is not much in our line. We understand it to be a mixture of fish, paraffin, and neatsfoot oils, but in what proportion or how made we do not know.

213/52. *Delhi (India).*—Cutch is imported here from British Burmah, Gambia mostly from Singapore. You would, no doubt, be better able to buy it to advantage in Calcutta than in London.

259/17 *Tamarind.*—(1) Ionone is an odorous body similar to irone, the active principle of orris-root; ionone is a ketone, C₁₂H₂₀O, and is obtained from citral. It is now much used on account of its delightful violet odour. (2) Cherry Tooth paste.—See *C. & D.*, January 23, 1893, page 117.

254/49. *F D*—The formula for violet stamp-ink given in reply to "Ego" is also suitable for making Telegraph-ribbon Ink substituting aniline blue and nigrosin for the respective colours.

259/27. *W. M. Scott.*—There is no modern English book of real value dealing with the distillation of essential oils, and generally with the manufacture of perfumes from their sources.

259/72. *Factum.*—We have no idea what liq. tong. sal. is, but we would not be surprised to learn that you mean liq. salic. nig.—salix nig. being used for nervous affections.

259/2. *Spes.*—Custard and Egg Powders.—See 1894 DIARY, page 361.

259/56. *Colours.*—You will find the information which you want in "Painters' Colours, Oils, and Varnishes," by G. H. Hurst, and published by Griffin & Co. The information would occupy more than a column of our space, and it is not of sufficient general interest to warrant that.

252/49. *R. II.*—Our experience of the Quillaia Tooth-wash is that in the course of a few mouths it does become muddy through hydrolysis of the saponin contained in it. You will find it better in your case to modify the formula thus:—Mix together 5 oz. of rectified spirit, 6 oz. of water, and 3 oz. of glycerine, and in this menstruum macerate 4 oz. of coarsely powdered quillaia-bark for a week; strain, and press the marc. Reserve this tincture. Wash the marc with 3 oz of proof spirit, and in the washings dissolve—

Otto roseæ	..	..	..	..	..	mlxv.
Ol. gaultberiae	..	..	..	..	..	mlxv.
Ol. menth. pip.	..	..	..	..	..	mlx.
Ol. rose geran.	..	..	..	..	..	mlx.
Ol. caryoph.	..	..	..	..	..	mlx.

Then add—

Tr. krameriae	..	..	..	..	..	3 <i>iss</i> .
Elixir. saccharin.	..	..	..	..	..	3 <i>iiij</i> .

With this mix the reserved tincture, add water to 40 oz., and set aside for ten days; then filter.

260/57. *Darent.* — Label varnish.— Canada balsam tinned with turpentine is one of the best. If you wish something to dry quicker use—

Gum thus ..	..	..	..	..	..	3ij.
Benzoin ..	..	..	..	..	..	3j.
Elemi ..	..	..	..	..	..	3j.
Sandarac ..	..	..	..	..	..	3j.
Spirit ..	..	..	..	..	..	3xx.

Dissolve.

The labels must first be coated with gum or isinglass mucilage and dried.

1/14. *J. B.* — Your query is not quite clear, but the following information covers the ambiguity. Blacking for Gun-sights:—

Gas-black ..	..	..	..	..	..	3ij.
Spirit ..	..	..	..	..	..	3ss.
Spirit-varnish ..	..	..	..	..	..	3ss.

Mix.

Gun Barrels and Locks are Blackened by smearing them with olive oil, and dusting with hardwood ashes. Then heat in a furnace until the coating is burned; cool, wash with spirit of salt, and polish with oil.

263/52. *Delhi.* — Black Hair dye.—The usual lead-and-sulphur lotion may meet your wants. See 1894 DIARY, page 366.

263/58. *Laboratory* — Lin. Terebinth, B.P., can be made a thick, pourable emulsion suitable for sending out in wide-mouth bottles. The gelatinised liniment indicates that the soft-soap used is excessively alkaline. The best way to make the liniment is to dissolve the camphor in the oil of turpentine, then add the soap and water, and shake occasionally until the soap is dissolved.

263/71. *Simla.* — For Brown-boot Polish see 1896 DIARY, page 227. A formula for blacking has been given—viz., on page 175, January 25.

263/3. *W. S. (Queensland).* — Your formula for Parrish's Syrup is the original one. We have compared it with Parrish's, and yours only differs in directing the hydrochloric solution of calcium phosphate to be cooled. We can only account for your difficulty in getting the precipitated phosphates dissolved by supposing that some of your chemicals are impure. Acid. phos. conc. is preferable to the glacial acid, because the latter is frequently highly impure; at the same time, you must see that the acid which you use is of proper strength. Instead of phosphate of lime use crystallised calcium chloride and sodium phosphate, of each 3ij. The precipitate is decidedly more soluble than reprecipitated calcium phosphate.

261/49. *F. I. C.* — Apothecaries' Assistants' Examination.—An account of the London examination was published in the *C. & D.*, May 27, 1893, page 725; one of the Dublin examination in the issue of April 28, 1894, page 566.

262/57. *H. & K.* — Hibbert's Antiseptic.—We examined the preparation some years ago, and found it to be a saturated solution of magnesium chloride, with certain other salines. The following is another analysis given in the *C. & D.*, July 27, 1889:—

Magnesium bromide ..	..	..	..	..	..	2 oz.
Potassium sulphate ..	..	..	..	..	..	3 lb.
Sodium chloride ..	..	..	..	..	..	1 lb.
Solution of magnesium chloride ..	..	..	..	..	..	1 gall.

We hear for the first time that the preparation is bitter. The one which we examined was not, nor did it contain the whole of the above-mentioned salts.

261/52. *C. H. G.* — Carbolic Tooth-powder.—The best basis for this is precipitated silica. When precipitated chalk is used the carbolic acid is slowly combined with the alkali, although it does not matter much, for 1 per cent. of the acid in a tooth-powder can really do little good as an antiseptic. An ounce of powdered soap, $\frac{1}{2}$ lb. of the silica, with $\frac{1}{2}$ dr. of carbolic acid and 10 drops of otto of rose, give an excellent dentifrice. Mix the ingredients well, and sift several times.

The following correspondents do not comply with our regulations requiring communications to be authenticated by the names and addresses of subscribers:—(262/6) *A Corkonian*, (262/72) *Subscriber (Marylebone)*, (1/15) *M. B. C.*, (262/14) *J. P. P.*

Next Week.

Monday, February 17.

Society of Arts, John Street, Adelphi, W.C., at 8 P.M.

"The Chemistry of certain Metals and their Compounds used in Building, and the Changes produced in them by Air, Moisture, and Noxious Gases, &c.", by Professor J. M. Thomson.

Tuesday, February 18.

Royal Institution of Great Britain, at 3 P.M. Professor C. Stewart on "The External Covering of Plants and Animals: Its Structure and Functions."

Wednesday February 19.

Western Chemists' Association (of London), Westbourne Restaurant, 1 Craven Road, W., at 9 P.M. Discussion on "The British Pharmacopoeia as a Standard for the Food and Drugs Acts," to be opened by the President (Mr. J. C. Hyslop).

Brighton Junior Association of Pharmacy, Newburg Hall, at 9 P.M. Social meeting.

Midland Chemists' Assistants' Association, Exchange Rooms, Birmingham, at 9 P.M. Paper: "Coal in Relation to Pharmacy," Part II., by Mr. H. Jessop.

Royal Microscopical Society, 20 Hanover Square, W., at 8 P.M. Mr. F. R. Dixon Nuttall on "The Male of Stephanoceros Eichhornii." Messrs. W. and G. S. West on "New Freshwater Algae."

Society of Arts, John Street, Adelphi, London, W.C., at 8 P.M. "Report of the Royal Commission on Secondary Education" by Mr. H. Macan.

Thursday February 20.

Chemists' Assistants' Association, 103 Great Russell Street, W.C., at 8.30 P.M. Mr. W. Manger on "Filtration."

Glasgow and West of Scotland Pharmaceutical Association, 94 West Regent Street, at 9.15. Mr. John Black on "The Phosphates of Iron and Calcium in Pharmaceutical Syrups." Note.—This meeting is postponed to Thursday February 27.

Liverpool Pharmaceutical Students' Society, University College, at 8.30 P.M. Mr. F. Charles Laikin, F.R.C.S., on "Facts." Exhibition of a new suppository mould by Mr. Wakes.

Chemical Society, Burlington House, at 8 P.M. "Origin of Colours; the yellow 2:3 hydroxynaphthoic acid." "Note on Etherification." "The relation of Pinene to Citrene." Professor Armstrong, F.R.S.

Royal Institution of Great Britain, at 3 P.M. Professor H. Marshall Ward on "Some Aspects of Modern Botany."

Friday, February 21.

Aberdeen Junior Chemists' Association, at 9.30 P.M. Short papers.

Edinburgh Chemists', Assistants', and Apprentices' Association, 36 York Place, at 9.15 P.M. Open meeting, conducted by Mr. W. B. Cowie.

Royal Institution of Great Britain, at 9 P.M. Dr. Edward Frankland on "The Past, Present and Future Water Supply of London."

Saturday, February 22.

Royal Institution of Great Britain, at 3 P.M. Lord Rayleigh on "Light."